

THE
ARCHITECT
& BUILDING NEWS

IN THIS ISSUE

- BUILDINGS FOR ESSO AT FAWLEY
- HOMES FOR PARAPLEGIC EX-SERVICEMEN
- CURRENT MEASURED RATES

OCTOBER 25, 1951

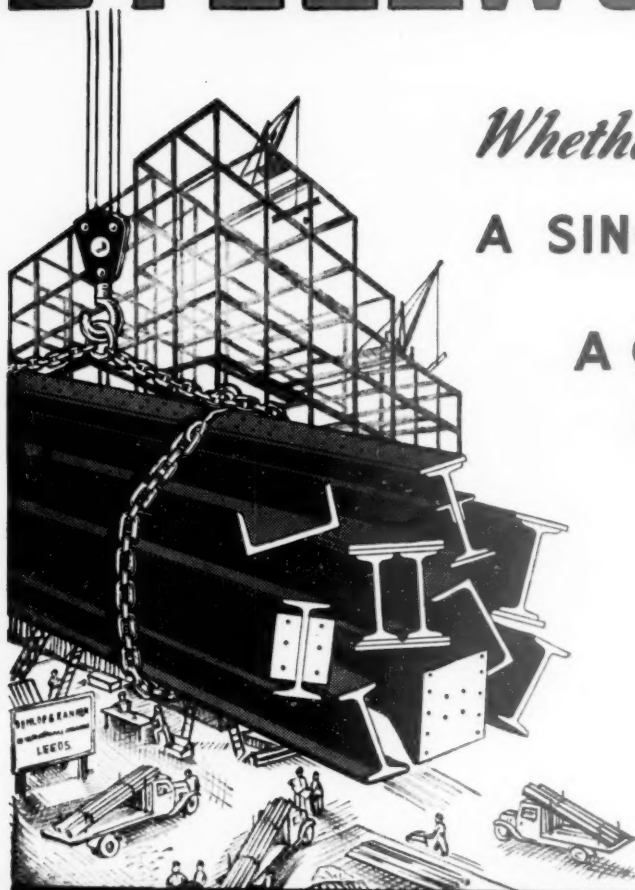
VOL. 200

NO. 4323

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THE ARCHITECT and Building News, October 25, 1951

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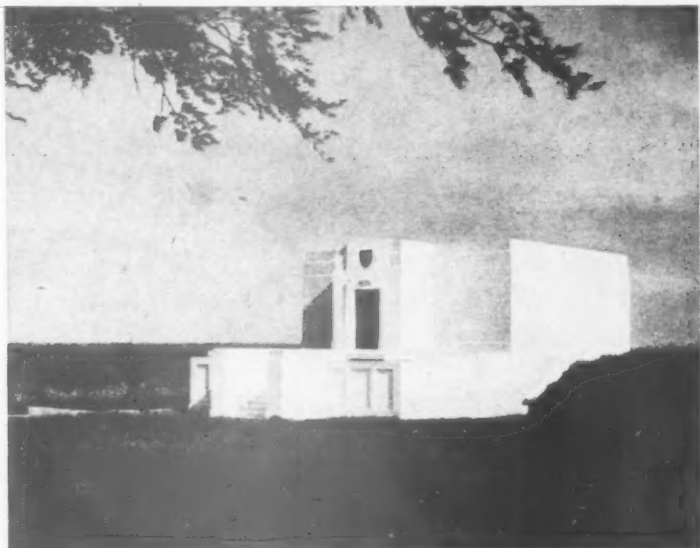
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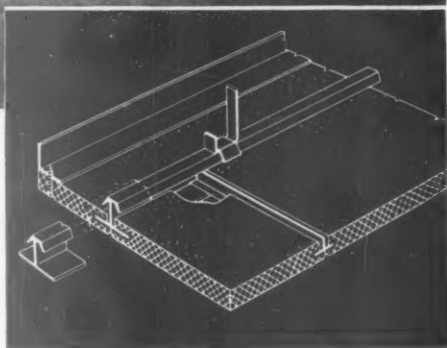


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Architects: Harrison & Cox.

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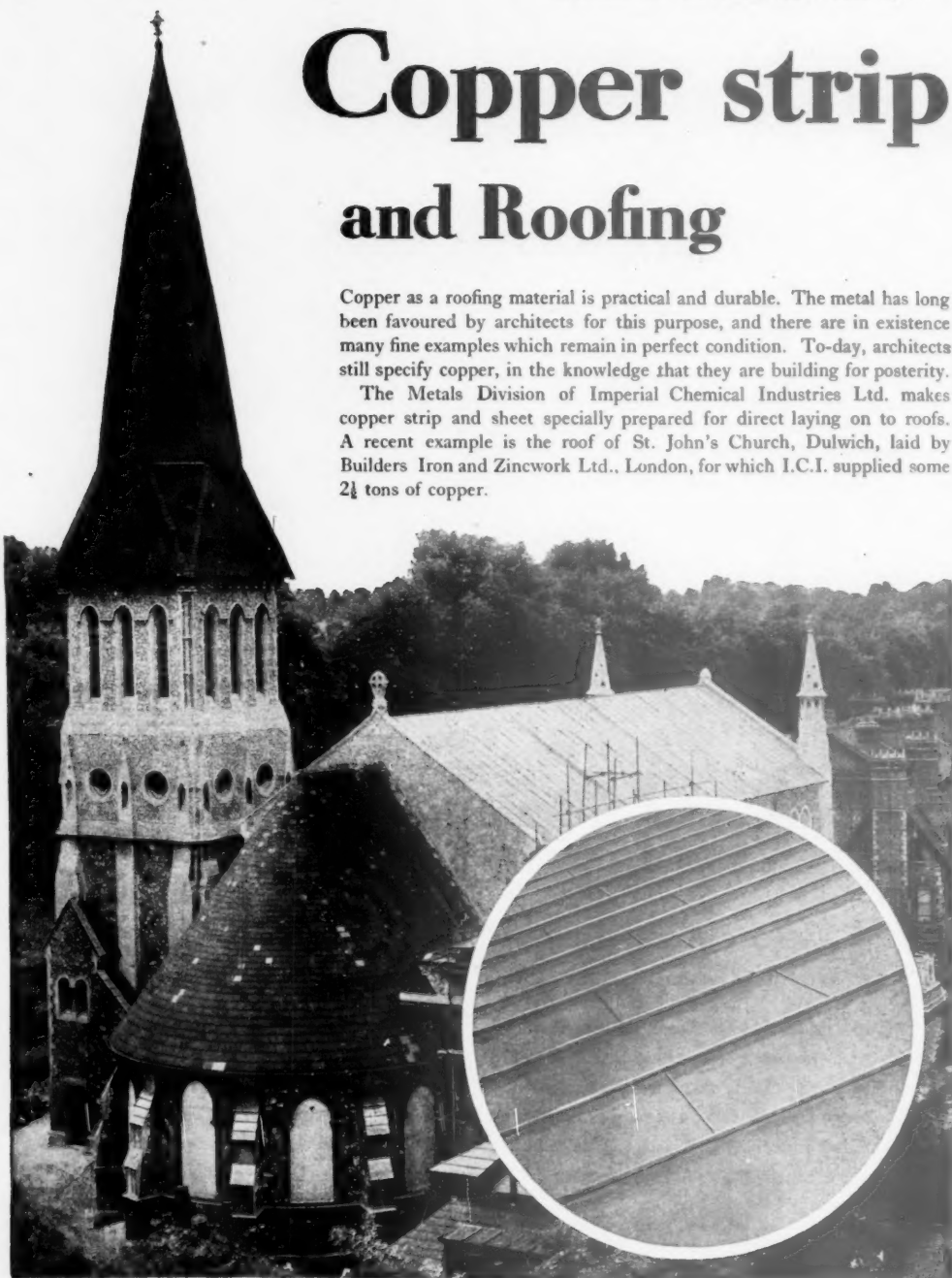
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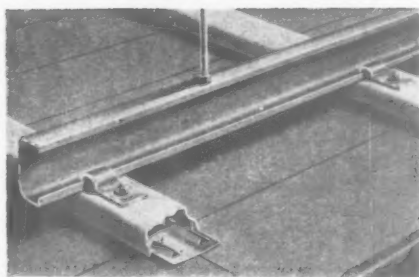


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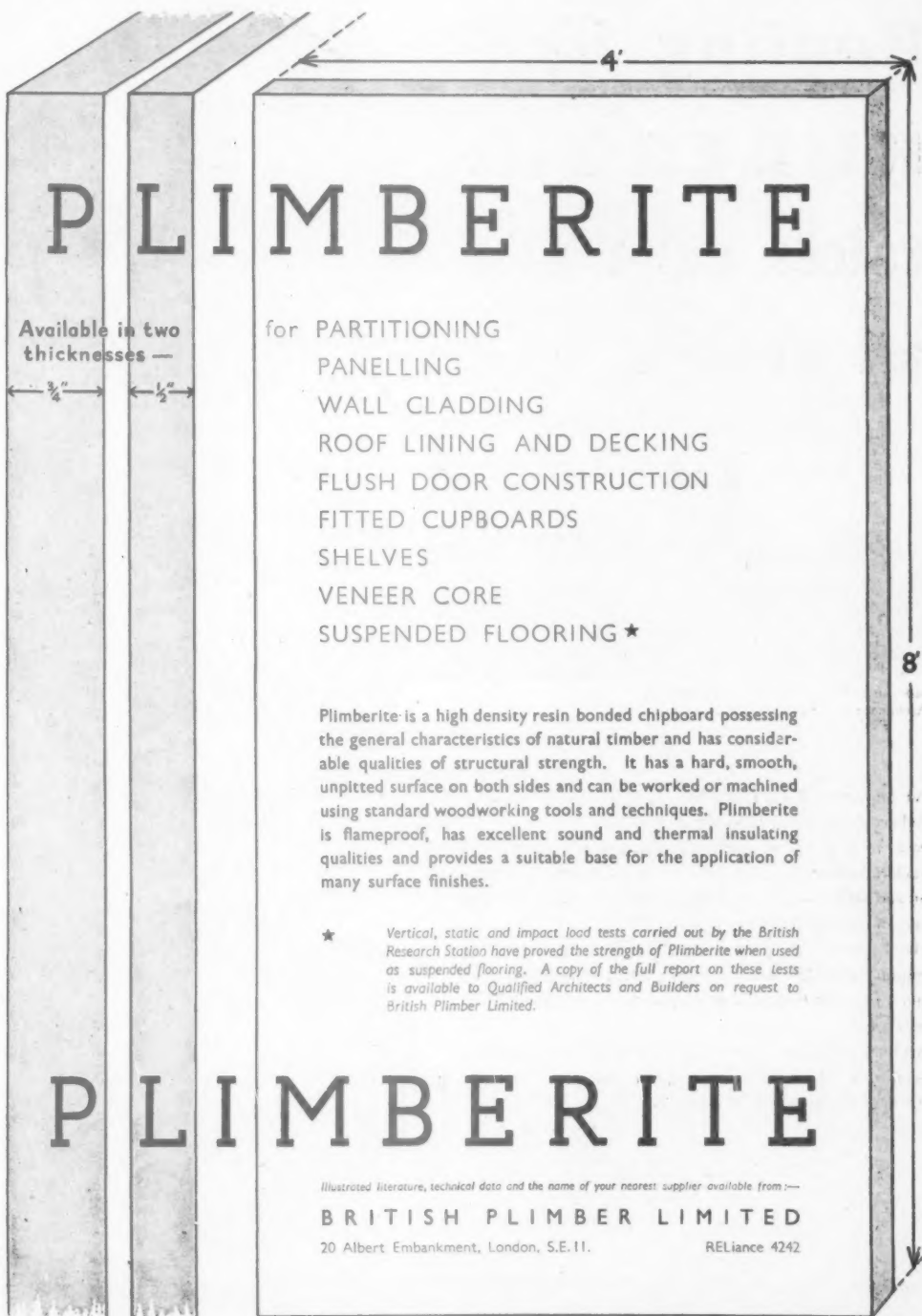
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The illustration shows three vertical panels of Plimberite. The first two panels on the left are labeled with their thicknesses: $\frac{3}{4}"$ and $\frac{1}{2}"$. The third panel on the right is larger, with a width of 4' and a height of 8'. The word 'PLIMBERITE' is printed in large, bold, sans-serif capital letters across the middle of the panels. To the right of the word, a list of applications is provided. Below this list, a paragraph describes the material's properties. A small star symbol is followed by a note about testing. At the bottom, the company name and address are listed, along with a reference number.

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Architect : Wilfrid C. Mangan, M.I.A.S.

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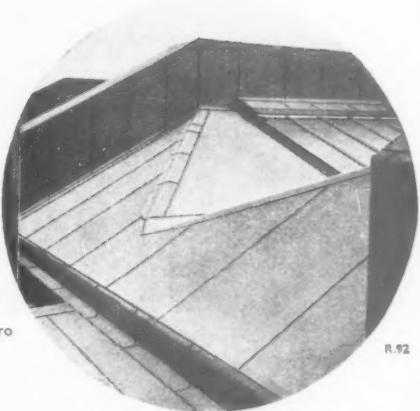


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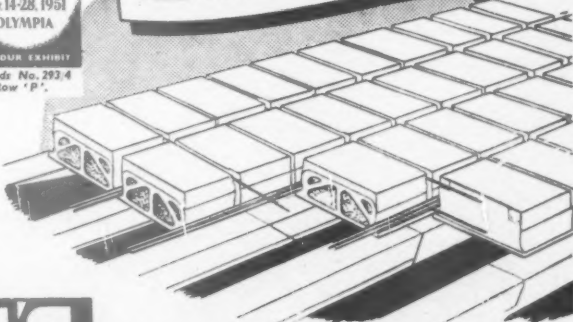
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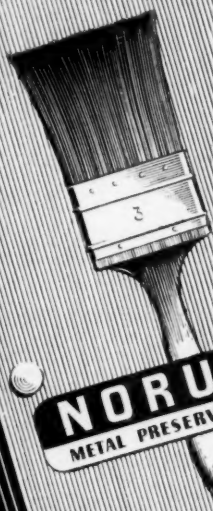


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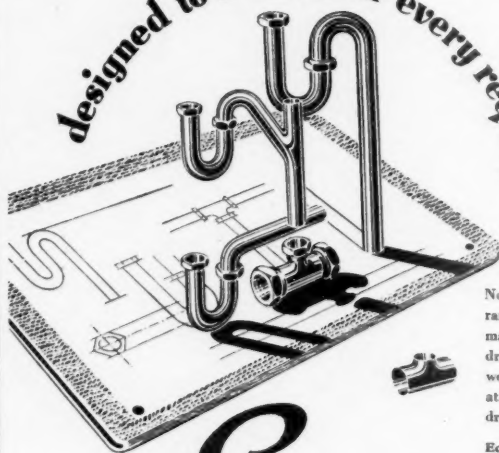
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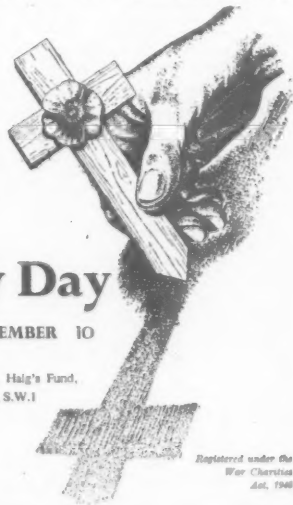
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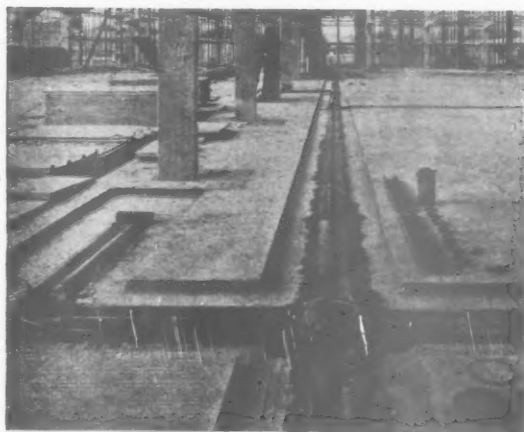
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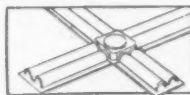
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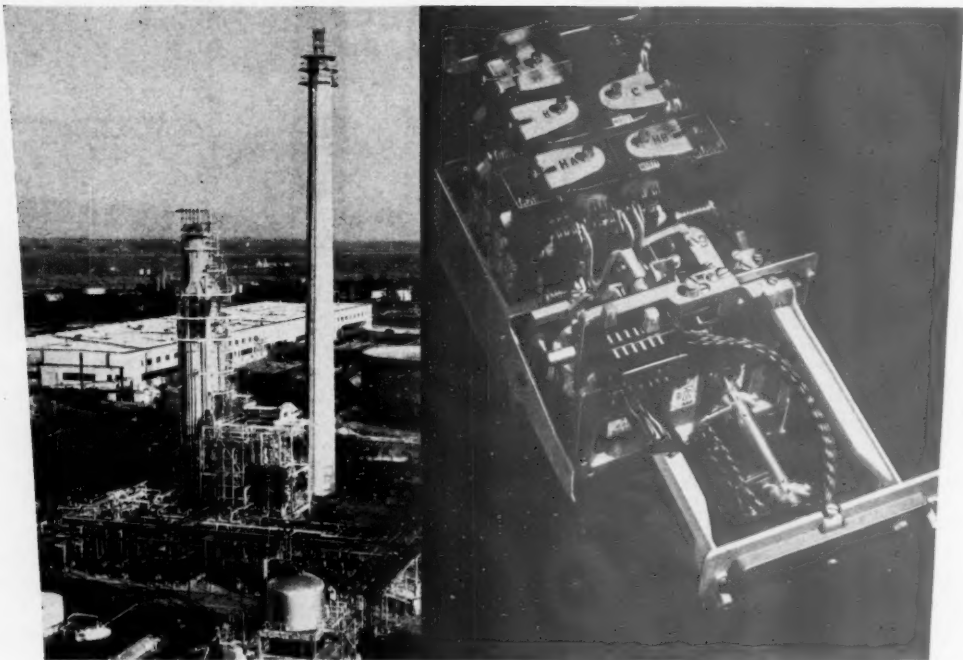
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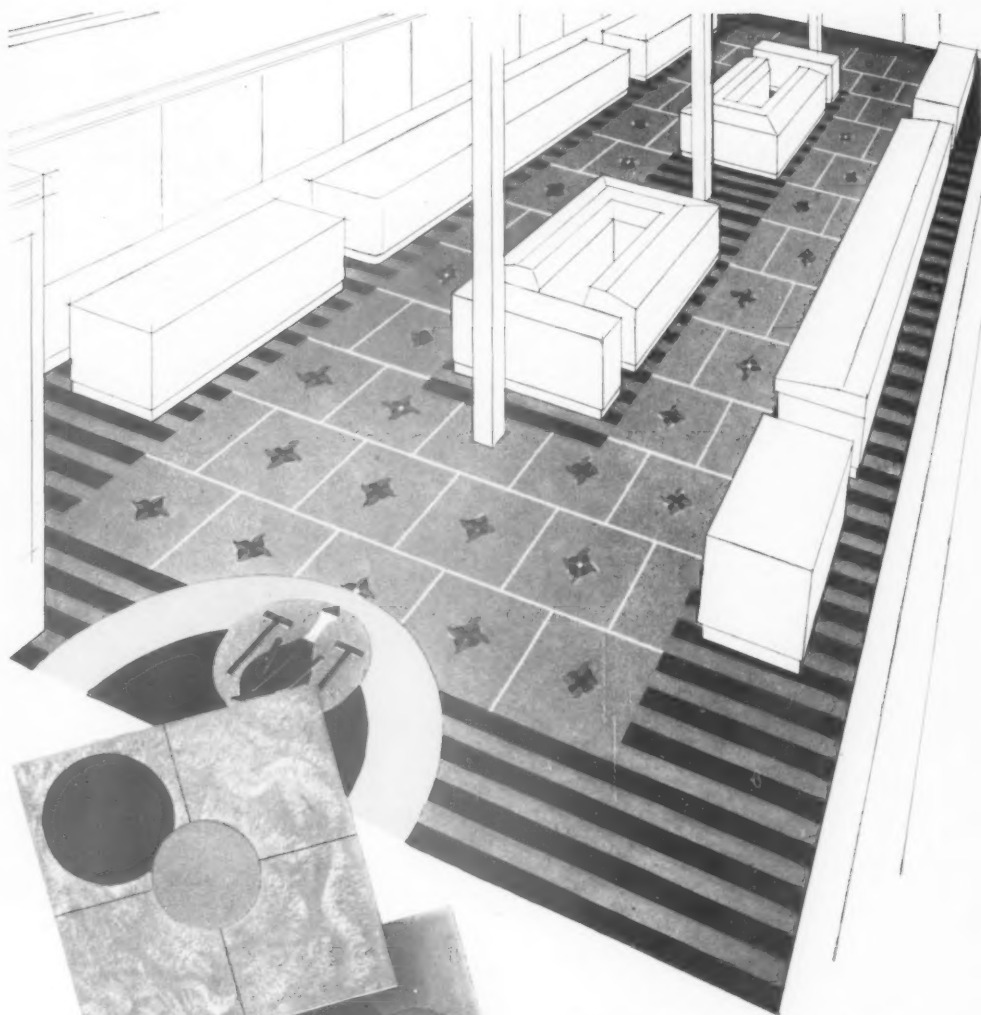
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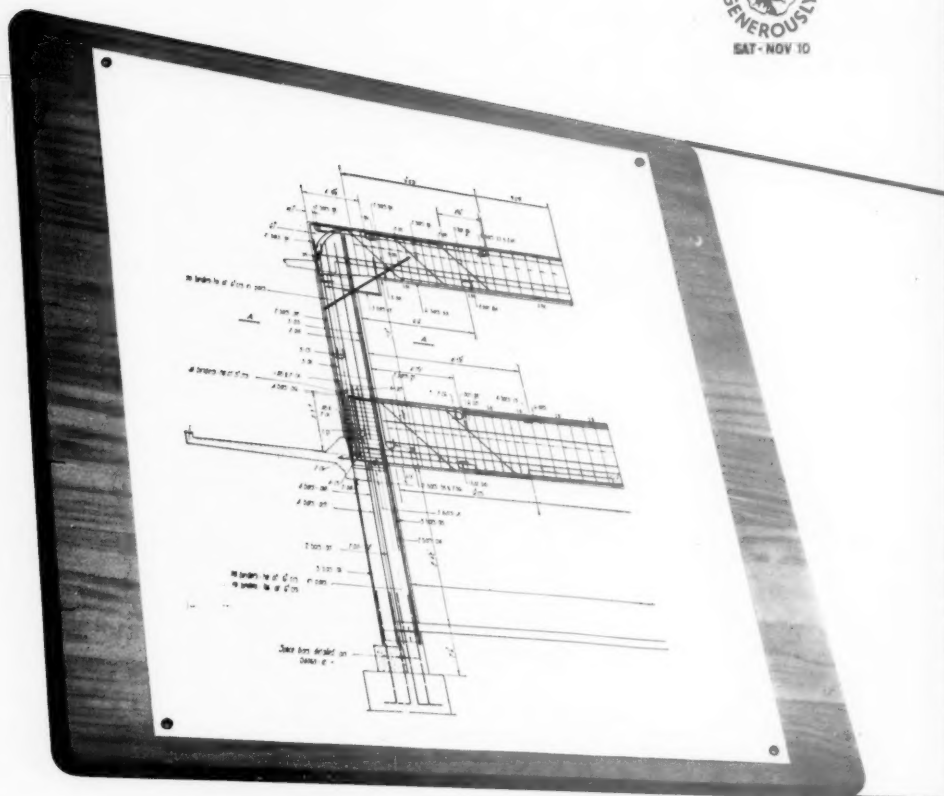
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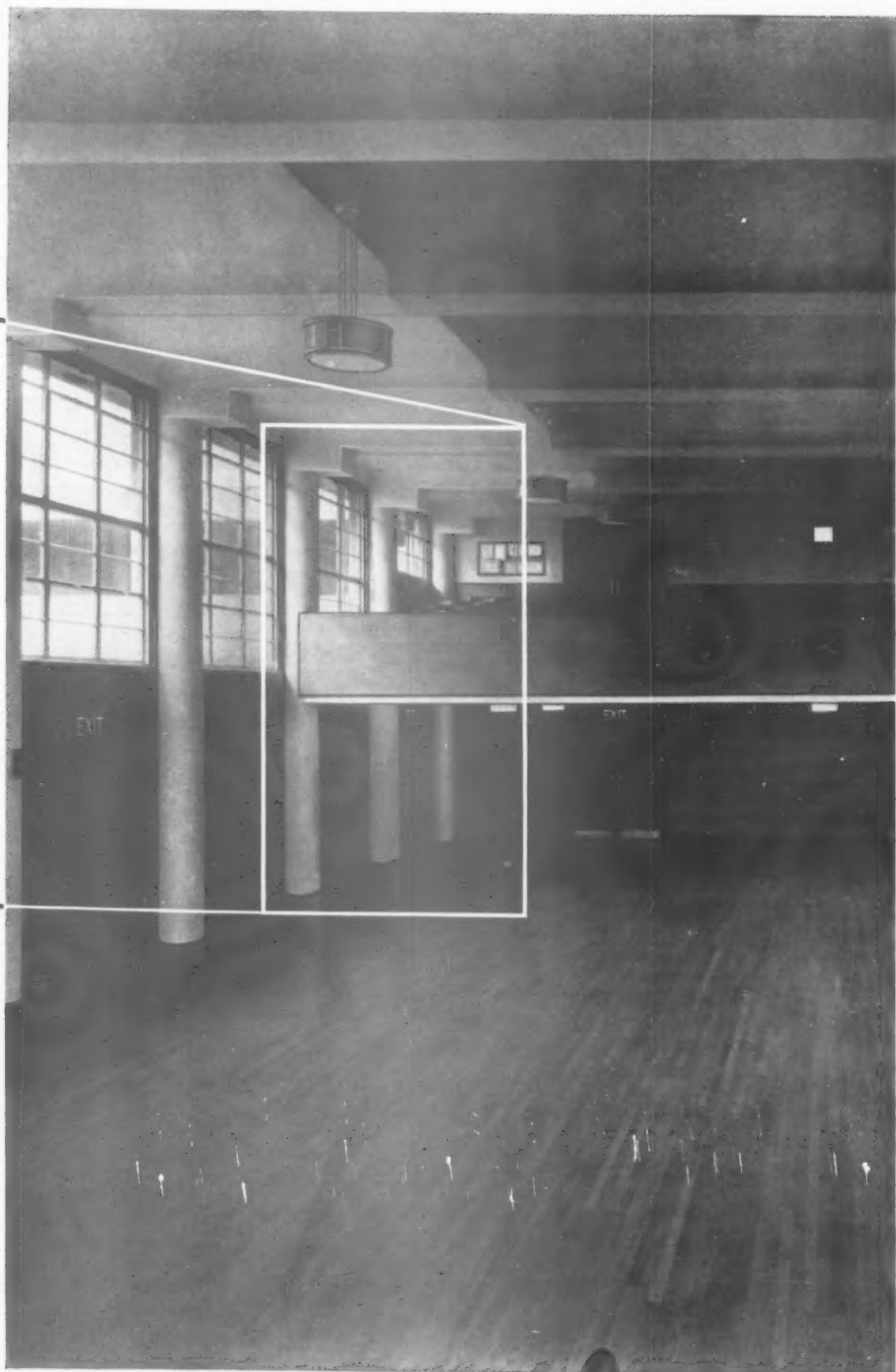
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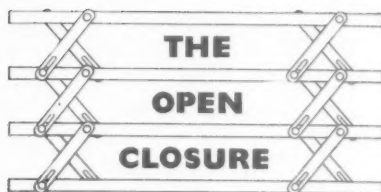
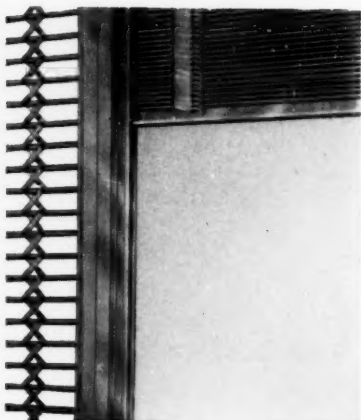
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M-W.647

E4



A feature of this bar at the Bell Hotel, Gloucester is the Dalex Grille (here shown closed) constructed in anodised aluminium in antique finish. The bar itself has an oak framed and panel front with a Dalex Inlaid top. The backfitting is also in oak, with curved cornice and recessed mirrors. The heavy oak framed and panelled doors are in keeping with the general decor.

Member of the Allied Brewery Traders Association



**Gaskell
Chambers**
LIMITED

ESSO REFINERY FAWLEY

Gaskell & Chambers have supplied the bars for the billiard room and the lounge, consisting of oak counter top, with counter front in vertical grained oak veneer and mirrored back cabinet. (Architect: Messrs Lanchester & Lodge, F.R.I.B.A.)

BRITAIN'S BIGGEST BAR FITTERS

- Head Office: DALEX WORKS, COLESHILL STREET, BIRMINGHAM, 4
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THE
ARCHITECT
& BUILDING NEWS

October 25, 1951

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Branch Office: Coventry: 8-10 Corporation Street; Birmingham: King Edward House, New Street; Manchester: 260 Deansgate, Tel.: Blackfriars 4412 (3 lines), Deansgate 3595 (2 lines); Glasgow: 248 Renfield Street

TO A NEW GOVERNMENT

WHICHEVER political party is returned from the present general election with a majority and is thereby called upon to form a government, and quite irrespective of what has been said by any party, collectively or individually by its members, the situation with which the new government will have to deal will be the same. In the long run it is the facts of a situation that are important and not the mere opinions that are held about them. Therefore, we presume to address this appeal to whatever government is formed in the near future.

Roughly speaking the facts of the situation are that there is a world shortage of raw materials of all kinds due to (a) an increase in world population, (b) a certain amount of exhaustion of mines, borings and the reduction of land to dust-bowls, (c) a general global rise in the standard of living causing increased demands and (d) general rearmament as a protection against existing armaments or hypothetical aggressions. The shortages are intensified by chronic uneven distribution.

Broadly speaking, there is also a shortage of labour to (a) repair the effects of the last war, (b) cope with increased standards of living, (c) carry out a simultaneous rearmament and (d) man the armaments when these are progressively acquired. Locally this global view of labour must be corrected to acknowledge unemployment in the occupied or conquered countries, Germany, Italy and Japan, and to this extent there is an uneven world distribution of labour; even if this could be corrected there would still be a global shortage of labour because there is too much to do.

Returning then to our own particular problem, there is no doubt that any government must take responsibility for dealing, in one way or another, with shortages both of materials and labour. It is not met by stealing lead or scrounging steel and it

is not enough to prosecute those who indulge in such proceedings; the real problems must remain—to get more materials or to find substitutes and so employ the labour that is now engaged in stealing, scrounging or prosecuting. To do this requires (a) a reasonable recognition of the facts, (b) that the right questions be asked as a result of (a), (c) planning to meet the situation and (d) that the plan should be carried out.

Viewed in this way—even if there be those who consider it too simple a summary or those who think it too complex—there can be very little argument as to how many houses should be built in a year. There is a definite number that can be built in any given time in relation to other demands on materials and labour in the spheres of industry, health, education, transport and rearmament. That there is any difference on this matter merely indicates that the relevant facts are not recognized or, if they are, the effective questions as to their meaning are not asked, with the result that any comprehensive method of dealing with the situation is not reached; in other words, planning, which all architects know is an essential process, cannot be carried out by whatever party is in power.

It is no lasting good to spend time with working parties, productivity teams, commissions and committees if the findings and recommendations of such bodies are not either (a) co-ordinated and (b) implemented; it is essential also to recognize that solutions to problems will only be found by proceeding in that order. Far too many contributive reports, white papers, conclusions and recommendations now remain in pigeon-holes, unco-ordinated and therefore useless—they are static monuments to the expenditure of human labour, a commodity that is admittedly in short supply.

Co-ordination as a preliminary to implementation means a far greater co-operation and exercise of good-will and mutual help than can be said to exist

at present. It is not much use each political party or individual professional or industrial body thinking of a number and sticking to it; the fact remains that there is a possible real number which all could agree upon if facts and good-will were brought together.

One of the largest industries in this country and one which has the largest ramifications into ancillary and supporting industries is that concerned with building. It is also the most unco-ordinated; by this we mean not only internally but with relationship to transport, distribution, substitute materials, labour-saving devices and local organizations of small units. A national working party may contribute something, but what is probably in greater need to follow up its work is the establishment of regional working parties throughout the country. Only some such method can appraise difficulties within their own areas and, in co-operation with authorities at national level, establish correct relationships with

a general world situation.

To a certain extent this is how physical planning in this country is being carried out and, in spite of many half-recognized snags and some sand in the works, the co-ordination is working; architects and planners know this is so because they recognize the method, even if they disagree about some of the details. But does the industry also know it as a way to greater production?

Controls and standards have become a part of planned production; it is better to have them fixed by mutual agreement, for the assistance of overall production, than to have them imposed by a single party or even by a bureaucratic majority; if the industry wishes it can agree, by co-operation with all concerned and by asking the effective questions, what is its maximum output of houses and all other sorts of buildings in relation to national priorities, when the latter are based, in turn, on a full recognition of the world situation.

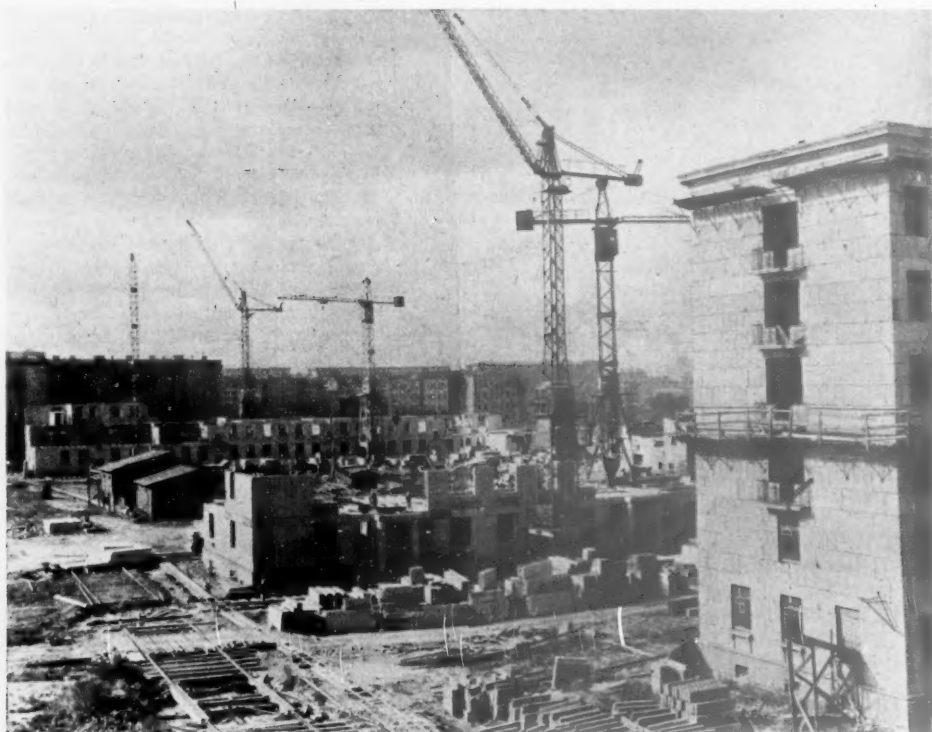


Photo: N. Naumenkov and N. Karavayev

New buildings on the Stalin Prospect, Leningrad. Note the Continental type cranes on wide tracks, and the large prefabricated wall sections.

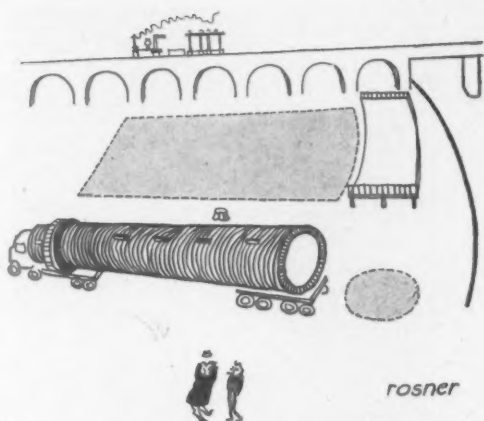
EVENTS AND COMMENTS

POLLING DAY

It would be wrong to allow the General Election to slip past without some mention on this page. If it is your custom to read your A. & B. N. at the breakfast table this may, perhaps, serve to remind you to vote, that is if you have not already been reminded by the sheaf of literature on your hall table with its rogues' gallery of portraits of candidates who are probably quite nice people really. One of our candidates is not much of an oil painting and has published a picture of his wife, who happens to be good looking, to make up for his own shortcomings. Some time to-day, then, you will vote. The chances are that it will be in a school or a Territorial Drill Hall. Neither type of building is likely to inspire you by its architecture, unless you are lucky to live in one of the enlightened counties. The only people who enjoy polling day are the children, who have a holiday, and that queer collection of persons armed with enquiring looks and lists of names who try to guess which way you are going to vote as you go in and ask you your name as you come out. Standing in the hall of the polling station you will find a most unpolitical policeman. As I pass him I always feel that I am about to do something wrong, a guilt complex creeps over me. I walk down the familiar corridor—for do I not vote here for the local elections as well—if my wife is with me we make silly conversation because the whole thing is so terribly SECRET and CONSPIRATORIAL. We enter Form III where two men sit in complete silence and the utmost secrecy. We hand in our cards, if we have not forgotten them, and are duly marked off with a most uncompromising blue mark on the electoral roll. We are handed our voting papers and move to the brown paper enclosures to make our marks. At this stage memory always deserts me and I cannot remember which candidate is which for there is no photograph and no party on the voting paper. After collecting myself I take the plunge with as big an X as I can make without spoiling the voting paper. Folding it neatly I drop it in the big black box and note that there is no photographer waiting to snap me as I do it. It is difficult to know what to say to the officials as even a raised eyebrow might break the seal of secrecy. The unreal and conspiratorial feeling lasts until we have passed the policeman and reluctantly given our names to the harpies at the door, while trying not to give them any visual indication of the way we have voted. Such is the strain of this operation, which takes only a minute or so, that I feel as if I too should have a day's holiday.

STUDENTS AND RUSSIA

Some architects think that all students are communists, and that anyone who takes the trouble to go to Russia must be a party member or at least a fellow traveller. Those who think on these lines, and other people as well, should read the National Union of Students' report entitled *British Students Visit the Soviet Union*, written by a delegation of ten students. It is one of the



"Clot, I said LEAVE the Concert Hall
and the Shot Tower!"

best factual records of a visit to Russia that I have read but it contains very little that is not already generally known about Russia and the outlook of Russians on the subject of what goes on outside. The section on housing is interesting. The delegation estimated, on official figures supplied to them, that the quantity of building going on in the whole of the U.S.S.R. is about the same proportionately as it is in the United Kingdom and that the quantity of building going on in Moscow is proportionately about half what it is in London. Standards of accommodation are very low compared with ours. Technical standards of new buildings are also relatively low; this is partly due to the lack of skilled labour and partly to bad detailing by architects. The report wisely does not go into the question of the capacity of bricklayers in the Soviet Union but it does say that buildings are being constructed very quickly.

The new Moscow University will have a tower 804 feet high and will contain everything including living accommodation for 6,000 students, thus the really studious will never need to put a foot outside.

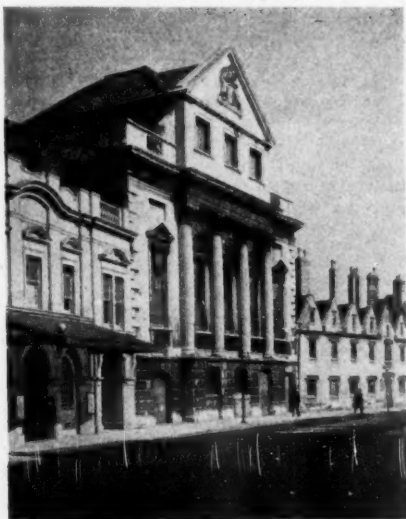
The object of the delegation was to see and talk to Russian students informally and to examine the Russian educational system. The difficulties, failures and successes of this scheme make interesting and sad reading. The delegation is to be congratulated on its tenacity of purpose and for giving, in question and answer, as good as it got from interviewers who clearly sought to turn the visit into pro-Soviet propaganda. The delegation's main complaint about the visit was that there was too much formal entertaining, too much food, and not nearly enough personal contact. As far as I know everyone who has ever visited the U.S.S.R. has found the same. The report costs 2s from the N.U.S., 3, Endsleigh Street, W.C.1.

HUGH CASSON, R.D.I.

Congratulations to Hugh Casson on being made a Royal Designer for Industry. This award is made by the Council of the Royal Society of Arts specially for the Festival of Britain. Mr. Casson was recently appointed reader in



Flats in Goldrington Street, St. Pancras, nearing completion.



Cooper's Hall, Bristol, designed by William Halfpenny in 1744, which has been scheduled as an Ancient Monument, and is being restored.

Interior Design at the Royal College of Art and, after the shortest of pauses from his Festival labours, has very quickly become his usual immensely busy self. There are now 37 Royal Designers for Industry. The maximum number is 40.

THE ROYAL GOLD MEDAL

The Royal Gold Medallist for 1952 will have to be chosen soon. It seems to me that one architectural figure stands out from all the others as the obvious choice. You do not have to be an ardent follower of Le Corbusier to realize that he has had and still has enormous influence on contemporary architecture and architectural thinking. His name is news where many other gold medallists are completely unknown. He is known and listened to with respect by all the leading modern architects of the world. He is my candidate.

BRITAIN IN NORTHERN RHODESIA

It is good news to hear that one man, Mr. Dennis Lennon, A.R.I.B.A., has been commissioned to design all the furnishings and equipment for the Ridgeway Hotel, Lusaka, which is being built with Mr. G. A. Jellicoe, F.R.I.B.A., M.T.P.I., as architect. Some of the prototype pieces were shown to the press earlier this week and photographs will appear in another issue. Most of the hanging textiles have been specially designed by Mr. Terence Conran and light fittings have also been specially designed by Mr. Lennon and Mr. A. B. Read, R.D.I., F.S.I.A. I hope I am asked to the opening of the Hotel.

COMPETITION OF THE CENTURY, THE CONDITIONS REVIEWED

Certain points in connection with the A.B.S. architectural competition, details of which were published last week,* are worthy of comment.

The size of paper for the drawings is highly suitable. It is to be not larger than half imperial and not smaller than quarto. Writing is to be on one side of the paper only.

Models and raised or repoussé works are banned. The results will be announced at the Ball and the prize-winning designs will be on view. The promoters appear to have overlooked the fact that under the R.I.B.A. rules *all* the designs submitted must be exhibited: this is a grave omission, indeed, it might well deter some of the more law-abiding members of the R.I.B.A. from entering. The promoters have, I believe, entirely without authority, absolved competitors from all by-law restrictions and have given them wide town planning powers. They have further played fast and loose with London Transport and without asking Lord Latham have given permission for diverting and blocking up the Bakerloo Railway which runs 60 feet below the site.

I have just noticed that the memorial *will on no account be built*, so I suppose the by-laws and R.I.B.A. rules do not really matter so much, but what a pity, what a loss to architecture.

Full conditions may be obtained from the Architect's Benevolent Society, 66, Portland Place, London, W.1. Roll up! Roll up! Roll up!

ABNER

*The name of Mr. Rowland Emett has since been added to the jury



Buccleuch House, a new block of 85 flats at Clapton Common which was opened by the Mayor of Hackney on October 13

NEWS OF THE WEEK

Essex, Cambridge and Hertfordshire Society of Architects Annual Dinner

The Annual Dinner of the Society was held on Friday, October 5, at Garon's Banqueting Hall, Southend-on-Sea.

The 120 members and guests who attended were received by the Vice-President of the Royal Institute of British Architects, Mr. R. E. Enthoven, A.A. Dipl., and Mrs. Enthoven, and the Society's President, Mr. D. Francis Lumley, A.R.I.B.A., and Mrs. Lumley.

In proposing the Toast of the Royal Institute of British Architects the President of the Society expressed his thanks to Mr. Enthoven for his presence. He then described the development of the R.I.B.A. from its first inception to the present day and made reference to the especial debt the Essex, Cambridge and Hertfordshire Society owed to the parent body, the R.I.B.A., during its twenty-three years of life.

In reply, Mr. R. E. Enthoven gave an appreciation of the work of the Essex, Cambridge and Hertfordshire Society especially amongst students, and referred to the high standard attained in the school of architecture of the Southend-on-Sea Municipal College under Mr. J. Malcolm Scott.

In proposing the Toast to the Patrons of Architecture, Mr. D. A. Thomerson, A.R.I.B.A., made a plea that architects would bear in mind at all times the importance of the smaller client who, he maintained, always had been and would always remain, a considerable influence in the development of architecture.

The reply to this Toast was by Sir Lancelot Keay, who on this occasion was present in his capacity as Chairman of the Basildon New Town Corporation and not in his better known rôle as a famous architect and past President. He said that in former days patronage has resided with the Church, the Crown and the Courtiers, and he illustrated the influences of these three patrons throughout history. Sir Lancelot concluded his speech with an appeal on behalf of the Architects' Benevolent Society.

The health of the guests was proposed by Mr. Harold Connolly, F.R.I.B.A., Essex County Architect, and was replied to by Mr. S. J. MacAdden who had been M.P. for Southend East until the morning of the Dinner when Parliament dissolved.

After the Dinner, the town's illuminations, through the kindness of Ald. A. H. White, remained on later than usual to enable those attending the Dinner to see them. This was greatly appreciated by the visitors to Southend.

Among those present were:

R. E. Enthoven Esq., A.A. Dipl., Vice-President of the Royal Institute of British Architects; C. D. Spragg Esq., C.B.E., Secretary, R.I.B.A.; S. J. MacAdden Esq., M.P. for Southend-on-Sea (East); Alderman A. H. White, Deputy for his Worship the Mayor of Southend and a former Mayor; Walter Beecroft Esq., President of the Friends of the Beecroft Art Gallery of Southend.

Guildhall Reconstruction

The Court of Common Council of the City of London agreed last week to obtain Parliamentary sanction to borrow £1,000,000 to provide new buildings at Guildhall and to acquire land. The Court has agreed an outline plan for the reconstruction of Guildhall and construction of offices at an estimated cost of £1,500,000, of which about £700,000 will be paid by the War Damage Commission. The architect is Sir Giles Gilbert Scott, O.M.

APPOINTMENTS

The Council of the Royal Society of Arts has made a special appointment in connection with the Festival of Britain to the Distinction of Royal Designer for Industry. The new R.D.I. is Mr. Hugh Casson, M.A., F.R.I.B.A., F.S.I.A., who was Director of Architecture at the South Bank Ex-

hibition and was personally responsible for the layout of the Downstream Section and the design of the 1851 Pavilion.

Mr. Casson has recently been appointed Reader in Interior Design at the Royal College of Art.

Mr. Ian Gordon Lindsay, B.A., ARSA, F.R.I.A.S., F.S.A. (Scot.), has been appointed as a member of the Royal Commission on Ancient and Historic Monuments and Constructions in Scotland. The recommendation has been made by the Secretary of State for Scotland and has been approved by the King.

Mr. Lindsay studied at Cambridge School of Architecture and is the author of a number of books on burgh architecture in Scotland.

Amongst his restoration works of ancient buildings are Pluscardine Priory, Iona Cathedral and Cannongate Church, Edinburgh.

Metropolitan Association of Chief Housing Officers and Architects

At a meeting held on July 18, 1951, a Society entitled "The Metropolitan Association of Chief Officers and Architects" was formed.

This new body caters for a wider circle than the Society of Metropolitan Architects and Directors which now merges with it.

Membership is limited to Chief Officers whose duties are primarily connected with housing, and the Association will cater for a section of Local Government officers whose professional interests are not entirely covered by any single body. The chairman is Mr. R. A. Jensen, B.Arch., F.R.I.B.A., A.M.T.P.I., and the honorary secretary and treasurer is Mr. H. C. Hampton, F.R.I.C.S., A.M.Inst.C.E., F.Inst. H.S.G.

Below is printed the Constitution of the new Association.

Constitution

1. DECLARATION

At a meeting attended by fifteen Chief Housing Officers and Borough Architects of Metropolitan Boroughs held at the Headquarters of the Royal Institution of Chartered Surveyors on June 12, 1951, it was unanimously agreed, as a matter of urgent mutual concern and interest, to form a society based upon proposals put forward by certain individual officers and by the Society of Metropolitan Housing Architects and Directors, and to be known as "The Metropolitan Association of Chief Housing Officers and Architects," hereinafter referred to as "The Association."

2. MEMBERSHIP

(a) *Eligibility.*—Membership of the Association shall be confined to Chief Housing Officers of the Metropolitan

COMING EVENTS

The Architectural Association.

October 31, 8 p.m. Annual General Meeting, at 36, Bedford Square, W.C.1.

Royal Institute of British Architects.

November 6. President's Inaugural Address. Presentation of London Architecture Bronze Medal at 66, Portland Place, W.1.

Students' Planning Group.

November 1, 6.15 p.m. Talk by Milner White, F.I.L.A., on "The Problems and Organization of a Landscape Contract," at 28, King Street, Covent Garden, W.C.2.

Department of Scientific & Industrial Research.

November 7-15. Dry Rot and Woodworm Exhibition will visit Ilford, Seven Kings Library. Open 11-8 p.m.

Boroughs, being officers holding the status of Chief Officers, and whose duties, as defined by Council resolution, are primarily connected with housing in the administrative, technical or management spheres, or a combination thereof.

It shall be a condition of membership that the member conforms to the Constitution and by-laws, and undertakes to further the Objects of the Association.

(b) *Admission.*—The nineteen persons invited to the inaugural meeting shall be regarded as "founder members." Subsequent admission shall be within the terms of the Constitution and by invitation, and shall be subject to a resolution by a majority of members present.

(c) *Termination.*—A member ceasing to hold an appointment as defined by sub-clause (a) above, shall forthwith retire from membership of the Society.

3. OBJECTS

(a) By all means available to promote good municipal housing practice in the Metropolitan area.

(b) To discuss and interchange information and views on all technical, administrative, management and allied matters concerning the specialist problems of housing work in relation to Metropolitan Borough Councils served by members of the Association.

(c) To arrange for the collation of information, and to provide means whereby the knowledge and experience of members can be made available to other members, and, by resolution, to other authorities and organizations.

(d) To make representations, either to other authorities or organizations where appropriate, and through whatever channels may be available, on such specialist housing problems with which members may be concerned, and on which they have knowledge and experience of special value.

(e) To engage in a programme of meetings and discussions, including, where desirable, addresses by specialists in allied spheres on matters of moment in connection with housing work.

CORRESPONDENCE

Colston Hall

To the Editor of A. & B. N.

SIR,—May I in turn correct Mr. Fry, whose letter appears in your issue dated October 11.

The special side entrance mentioned on page 346 of your issue of September 27 is, as the words imply, a special opening cut through the North side main wall of Auditorium and shown on the plan of Front Auditorium level. The actual position being dictated by the slope in Trenchard Street.

The side entrance seen in the photograph on page 348 has, I agree, always existed and is still used as such, now as access to the balcony.

Reference to Mr. Fry's sketch section shows the unsuitability of this entrance as an access for invalids in chairs.

I am, etc.,

J. NELSON MEREDITH,

Bristol.

City Architect.

(f) To develop such social activities as may assist in promoting the foregoing objects and at the same time strengthen the link between Housing Officers as a whole.

4. ELECTION OF OFFICERS

(a) The Chairman, Vice-Chairman, Hon. Secretary and Hon. Treasurer elected at the inaugural meeting shall hold office until the 1952 Annual General Meeting, and thereafter these offices shall be filled from year to year, after nomination in accordance with sub-clause (b) below.

(b) Nominations shall be made upon the proposition of any member, duly seconded. Voting shall take place at the Annual General Meeting, each member present being entitled to one vote.

(c) Any casual vacancies shall be filled at the first ordinary meeting of the Association following the vacancy, provided that reference thereto shall have been made on the Agenda for the meeting.

5. ANNUAL GENERAL MEETINGS

The Association's year shall end on March 31 annually and the Annual General Meeting shall be held within the following 30 days.

6. QUORUM

A quorum for all purposes shall consist of one-quarter of the membership of the Association.

7. ACCOUNTS

The Hon. Treasurer shall submit to each Annual General Meeting a statement of accounts for each year, duly audited by an auditor approved by the Chairman.

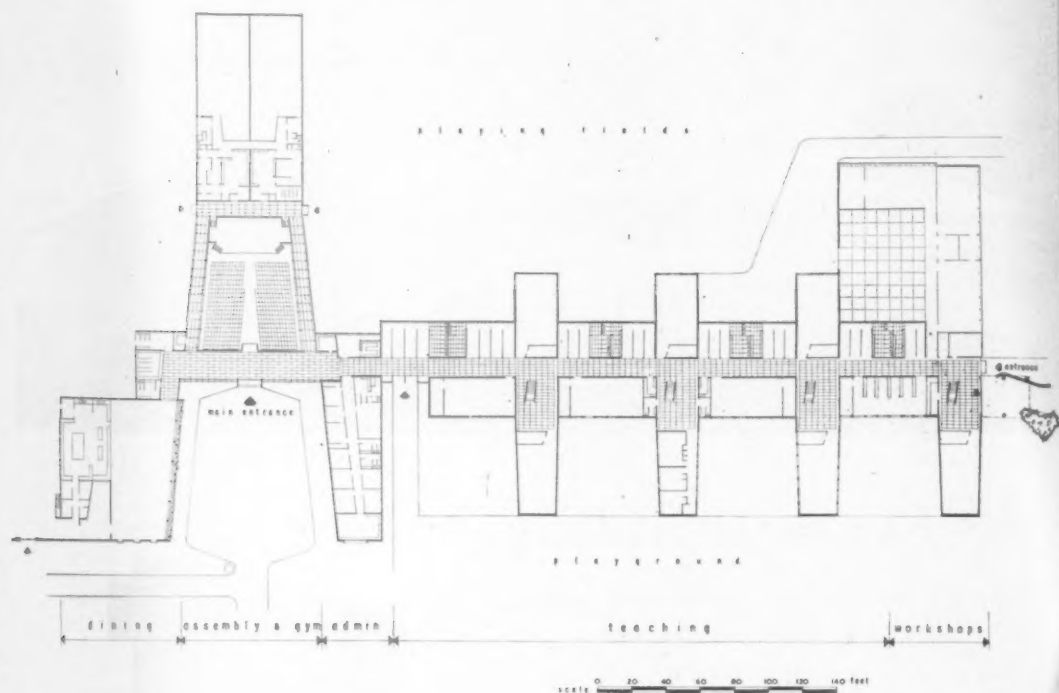
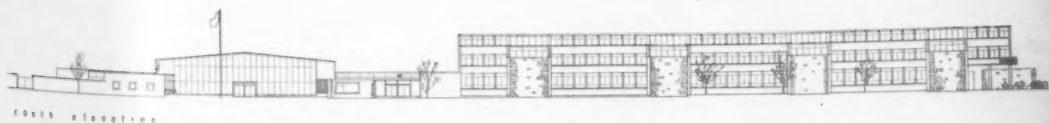
8. ANNUAL SUBSCRIPTION

The annual subscription shall be one guinea. (Note.—Members of the former Society of Housing Architects and Directors who are fully paid up for the year 1951 shall not be liable for subscription to the Association until the year beginning April 1, 1952.)

R. A. JENSEN (Chairman).

H. C. HAMPTON (Hon. Secretary).

July, 1951.

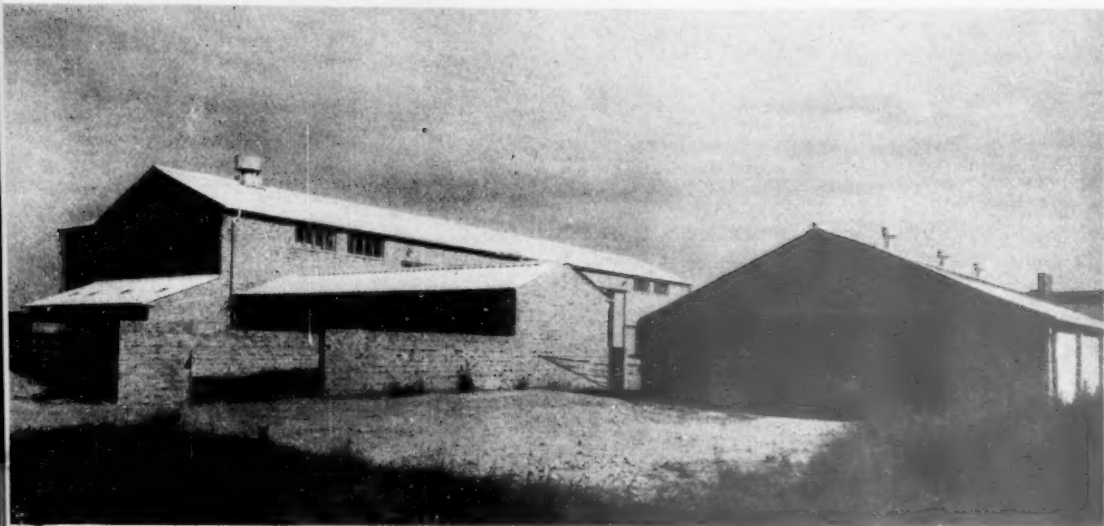


**Proposed Duncanrig Secondary School
East Kilbride, Scotland**

architects: BASIL SPENCE & PARTNERS

View of the model from North.



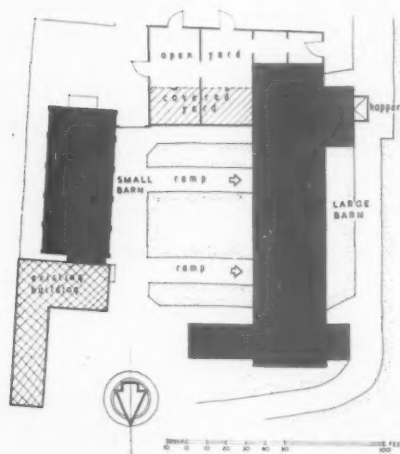


View from the South East

Farm Buildings

BERWICK BERNERS HALL
Abbees Roding
Essex

Architect :
ROFF MARSH
F.R.I.B.A., A.M.T.P.I.



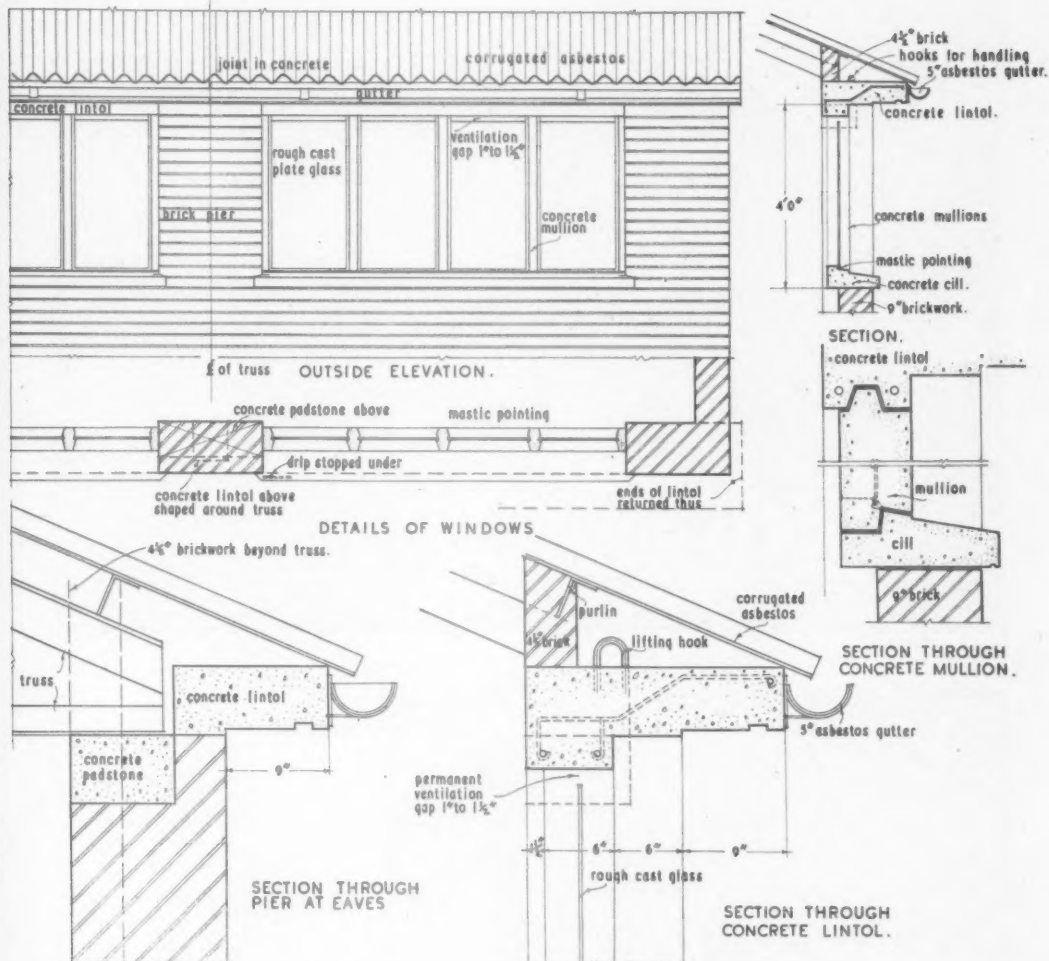
THE farm buildings were destroyed by incendiary bombs in September, 1940. The large barn, reputed to be the second largest in the county, was constructed in oak framing with plastered walls and a steeply sloping thatched roof. It stood on a brick plinth. The other buildings were in similar construction.

Layout

The new buildings consist of a barn of similar size to the one destroyed, an open cattle yard, loose boxes and a smaller barn designed as a double range cowhouse but with all the equipment omitted to suit the present needs of the owner.

The floor of the previous barn was 3ft above the yard level and the new barn has been sited in the same position to take advantage of the previously consolidated raised platform. Concrete ramps lead up to the main doors which give a clear opening of 16ft x 14ft 10in to provide entry for a Combine Harvester, and two lower roadways lead to the loading docks with the barn floor 3ft 6in above the roadway level, so enabling grain, etc., to be wheeled directly on to the lorry platform.

An eight compartment grain silo has been constructed at the South end of the barn, this silo is of precast concrete construction built on brick cross walls; the barn floor at this point being dropped 3ft and reinforced to form a foundation to the silo also affording greater height and so obtaining the maximum amount of grain storage. There is a steel-lined grain hopper on the West side immediately outside the building into which the grain is tipped. It is then transferred to the silo, dresser etc. by electrically driven mechanical conveyors.

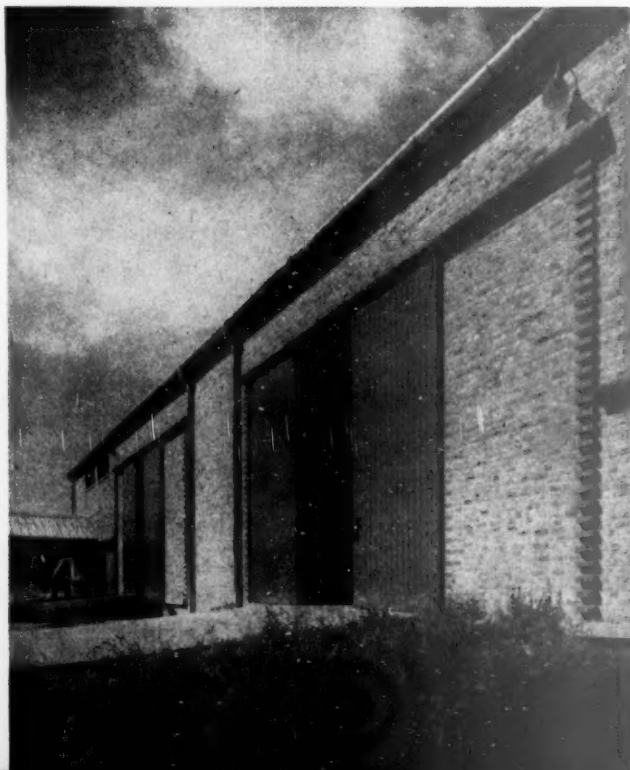


Construction

In designing the buildings everything has been done to eliminate maintenance especially at a height above the ground. Only the doors and the roof trusses are painted. The walls throughout are built in stock brickwork, laid English bond with a rubbed joint. The jambs of door openings and internal quoins are constructed in bull nased blue bricks and the door stops consist of blue bricks set in the header course and projecting 3 in from the face of the wall. All walls are capped with a concrete eaves member. In the case of the large barn this eaves member is also combined with concrete windows which fill the opening between the piers and consist of precast concrete mullions which fit into rebates in the eaves and cill members. The rough cast plate glass, left with a 1 in gap at the head to provide ventilation, is set directly into the concrete frames. A detail of this construction is shown. The roofs consist of steel trusses and asbestos Trafford tile sheets, except the roof of the small barn which has combined sheets for additional insulation.

All the main doors are hung on overhead track with copper flashing dressed over the track where it occurs on the external face of the wall.

The floors of the barns are finished in Ironite laid integral with the floor slab and the floors and the dados of loose boxes are in granolithic.



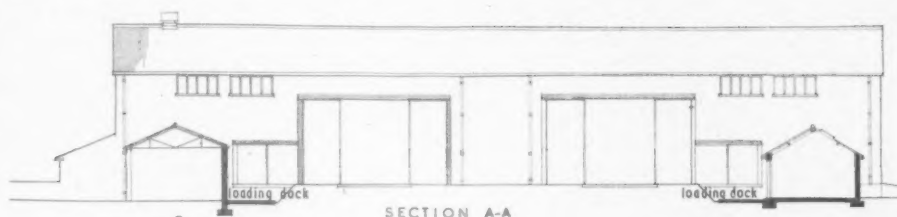
BARN S AT ABBESS
RODING, ESSEX

Architect: Roff Marsh, F.R.I.B.A.

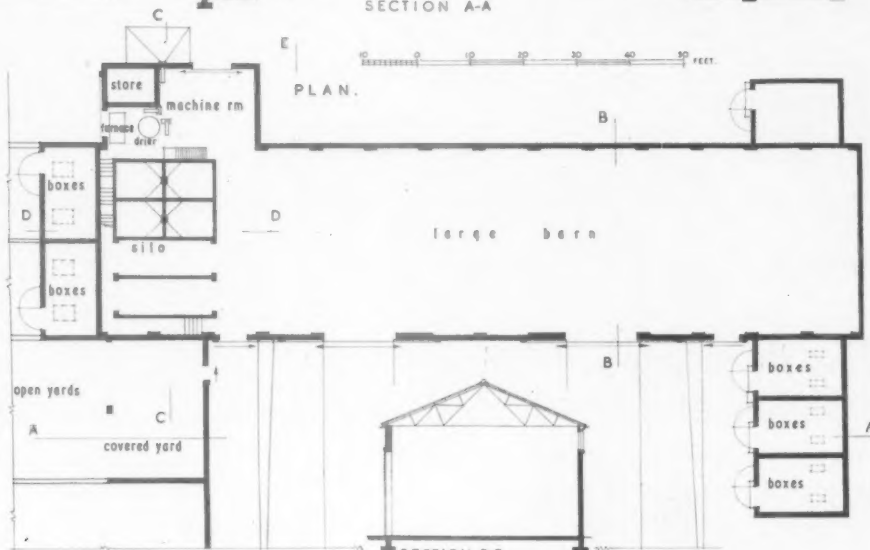
General Contractors

Henry Potter (Wm. Sharp), Ltd.

Asbestos Roofs: The Boddy Roofing Co., Ltd. *Bricks:* W. T. Lamb & Sons, Ltd. *Electrical Installation:* E. H. Hockley & Son. *Precast Concrete Silo:* Concrete Mouldings (Chelmsford), Ltd. *Roof Glazing:* British Challenge Glazing Co. *Roof Trusses:* Redpath Brown & Co., Ltd.; B. Finch & Co., Ltd. (Small Barn). *Sliding Door Gear:* British Trolley Track Co., Ltd. *Steelwork Erection (Large Barn):* L. A. Carty & Co., Ltd. *Tubular Gates:* J. R. Gordon & Company.

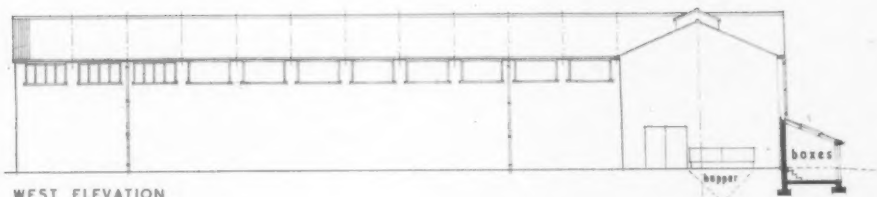


SECTION A-A

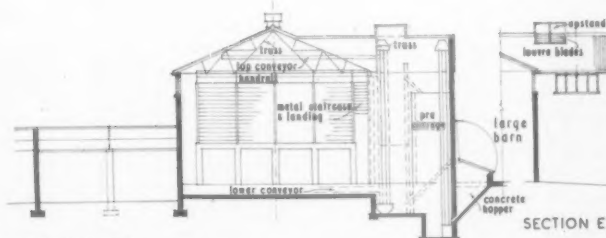


PLAN.

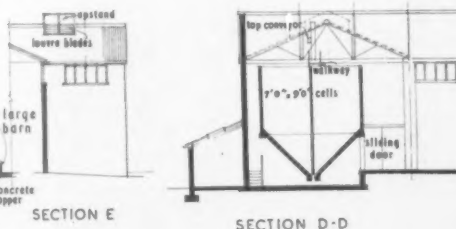
SECTION B-B



WEST ELEVATION



SECTION C-C



SECTION D-D

SECTION E



Administration Building

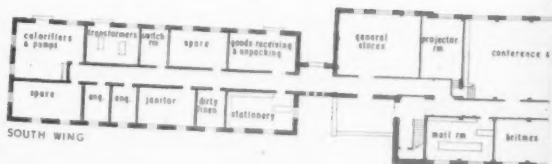


Buildings at Fawley Refinery for the Esso Petroleum Co.

architects :
LANCHESTER & LODGE



0 10 20 30 40 50 60 70 100



ADMINISTRATION BUILDING

AN office building was required to house the administrative staff, medical and first-aid block, utility and storage block.

The main block contains offices of 15ft deep and 28ft deep on either side of a central corridor on three floors with a storage floor for files on an additional floor. The Central Hall contains stairs and lift, with utility rooms and lavatories flanking on either sides. Medical and utility blocks are in single storey flanking wings.

Time for completion of the contract for erection was 12 months which was later shortened to eleven.

Structure: Steel frame, hollow tile floors, brick cavity walls, asphalt roof on insulating screed. Corridor walls—brick; office dividing partitions—terracotta.

Materials and finishes: Floors—Travertine to entrance hall, terrazzo to stairs, tile in utility rooms, Accotile to corridors and offices.

Walls and ceilings—plaster painted. Sound absorbent panels suspended from office ceilings by hangers, consist of acoustic Celotex tiles in metal frames.

Heating: By means of hot water radiators from calorifiers, with steam supplied from the central plant, thermoelectrically controlled. A separate calorifier provides heating and hot water to the medical block for 24-hour use. Natural ventilation is supplemented by exhaust to lavatories, dark rooms and medical wing corridor.

Lighting: A uniform pattern of G.E.C. fittings has been used throughout the block, most of them ceiling mounted. Illumination values average 25 lumens per sq ft, but 35 lumens is provided in the mechanical engineering drawing office and 32 lumens in the machine engineering section. Fittings are shown in illustrations, bottom of page 456.

The internal communication system of the refinery consists of a 600-line Strowger automatic telephone exchange with, initially, 450 extensions.

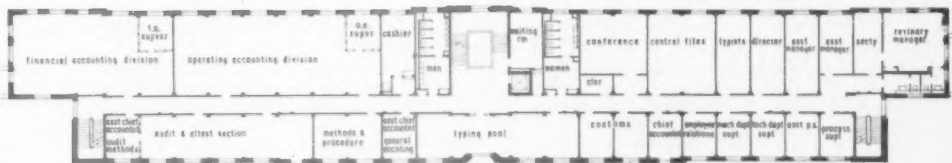
CANTEEN

A canteen was required to seat 900 persons in two sittings with sub-division for staff and operating personnel, with a small separate dining room for guests. The kitchen

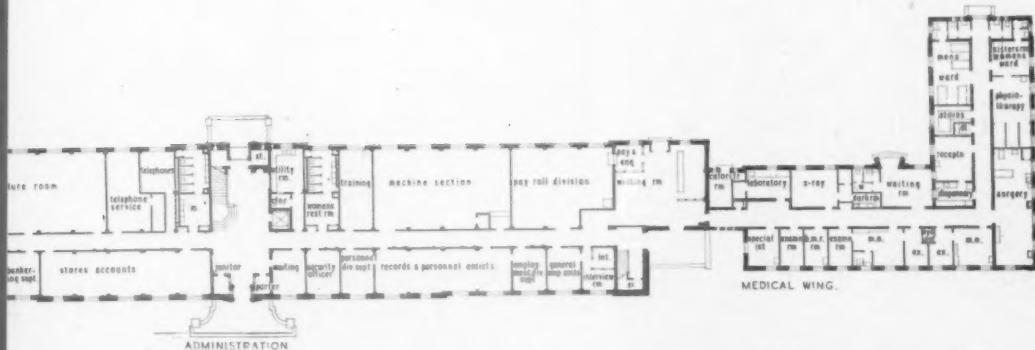
Continued on page 456



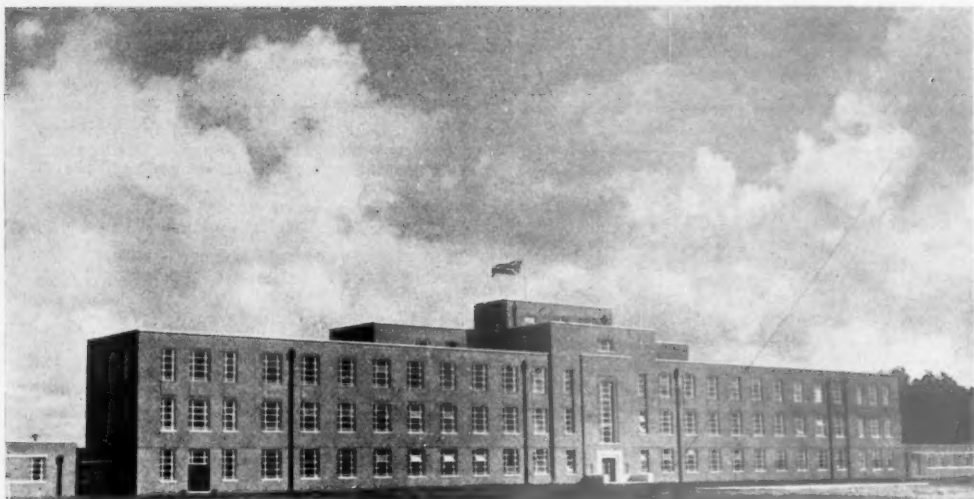
Front Elevation



First Floor Plan



Ground Floor Plan



Administration Building from West

Continued from page 455

is equipped for using Butane gas as fuel. Steam from the central plant is also available for heating and cooking.

Structure: Load bearing brick walls, steel beams, hollow tile floors. Asphalt roof on insulating screed. **Materials and finishes:** Dining-rooms Accotile floors, painted plaster walls, painted plaster ceilings with sound absorbent panels. Servery, kitchen, auxiliary rooms—quarry tile floors, tiled walls, enamelled plaster ceiling.

Heating: As for administrative building. **Ventilation:** Extract ventilation from servery and from hoods over kitchen fittings. **Lighting:** Tungsten fittings in dining-rooms and vapour-proof fluorescent in kitchen.

LABORATORY

Construction is generally similar to the canteen building. Heating is by means of a plenum system in the laboratories and by radiators and calorifiers in laboratory

offices. All services in the laboratories are carried at high level with drainage enclosed in floor ducts. The floor is hardwood blocks.

General lighting is provided by G.E.C. twin lamp opal "Perspex" trough reflectors except in certain rooms where tungsten flameproof fittings are installed.

CINEMA AND CLUBHOUSE

The clients required a hall for meetings and cinema with stage and a club for the use of employees. In order that the building should be available for use by the construction staff, the building had to be completed in six months from the date of commencement.

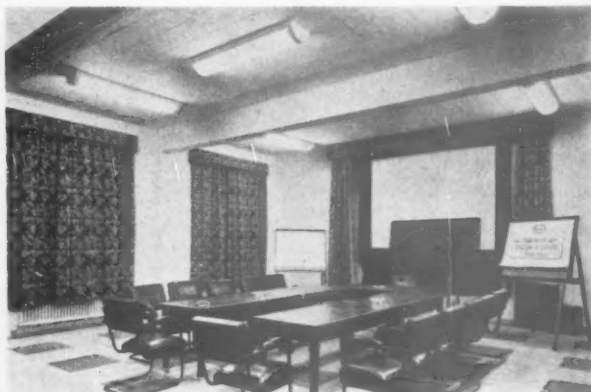
Structure: Load bearing brick walls, steel beams, hollow tile roof slabs covered with asphalt on insulating screed. Roof over hall is of slates supported on steel trusses.

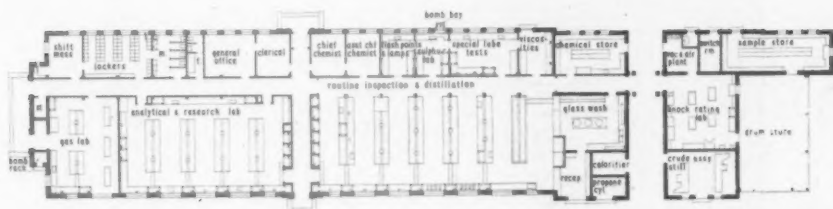
Continued on page 458

Drawing Office

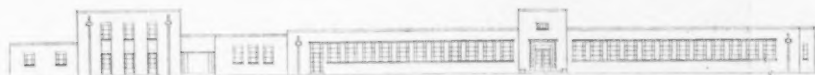


Conference Room





Laboratory Plan



East Elevation



Laboratory

BUILDINGS FOR ESSO AT FAWLEY

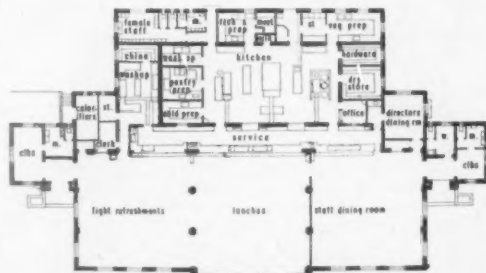
GENERAL CONTRACTORS: JOHN LAING & SON, LTD.

Sub-contractors & Suppliers:

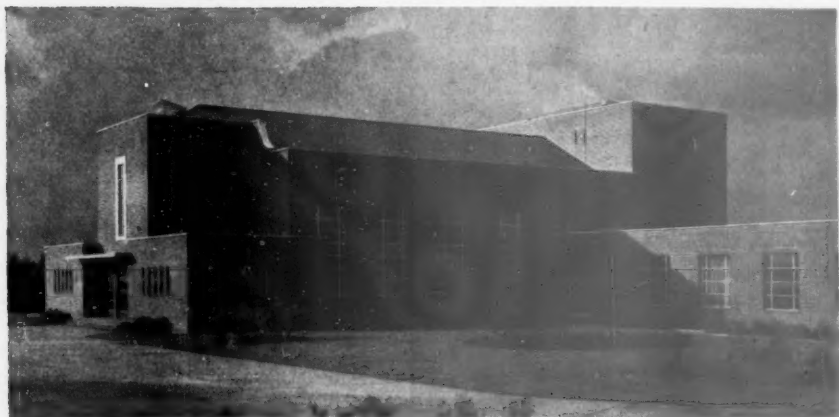
Acoustic Floors: Armstrong Cork Co., Ltd.; Gabriel, Wade & English, Ltd. Acoustic Plaster: Horace W. Culham & Co., Ltd.; May Acoustics, Ltd. Acoustic Tiles: Horace W. Culham & Co., Ltd. Artificial Stone: The Blokrete Co., Ltd.; Gilling's Ferro Concrete Co., Ltd. Asphalt: The Rock Asphalt Co., Ltd. Balustrading, Gates and Counter Grilles: J. Starkie Gardner, Ltd. Bar Fittings: Gaskell & Chambers, Ltd. Blinds: Joseph Avery & Co. Bricks-Facing: The Sussex & Dorking United Brick Companies, Ltd. Built-up Roofing Systems: D. Anderson & Son, Ltd. Casters Furniture: Kingfisher, Ltd. Clocks: The National Time Recorder Co., Ltd. Doors and Frames: Rippers, Ltd. Duct Covers: Broads Manufacturing Co., Ltd. Electrical Equipment: The General Electric Company, Ltd. Electrical Installations: T. Clarke & Co., Ltd. Fencing: Hill & Smith, Ltd.; Penfold Fencing Co., Ltd. Fire Protection Equipment: The Pyrene Co., Ltd. Floor Polishing: Southern Window & General Cleaning Co. Furnishings, Curtains, Mats and Mirrors: Maple & Co., Ltd. Furniture for Dining Room: Hall's Contract, Ltd. Gates, Screens, Car Ladders and Valances: Haywards, Ltd. Hayrack Lights: Haywards, Ltd. Hollow Tile Roofs: The Klein Co., Ltd. Iron and Wicket Gates: Hill & Smith, Ltd. Ironmongery and Cloak Room Fittings: James Gibbons, Ltd. Kitchen Equipment: Benham & Sons, Ltd. Laboratory Fittings: Sotus, Ltd. Landscaping: Landscape, Ltd. Lifts: Waygood-Otis, Ltd. Mechanical Services: Matthew Hall & Co., Ltd. Metal Windows and Glazed Screen: Critical Manufacturing Co., Ltd. Nameplates: Butler Jones (Nameplates), Ltd. Portland Stone, Copings and Artificial Stone: The South-Western Stone Co., Ltd. Processing Tank: Newton Victor, Ltd. Rainwater Heads and Pipes: Nicholls & Clarke, Ltd. Roller Shutters: Brady & Co., Ltd.; Haywards, Ltd. Roof Lights: Lencroette, Ltd. Roof Screen: Metts Mica, Ltd. Rubber Flooring: Philip Flooring Co., Ltd. Ruboleum: Inlaid Ruboleum Tile Co., Ltd. Sanitary Fittings: John Bolding & Sons, Ltd. Sound Equipment: Communication Systems, Ltd. Stage Equipment, Sound Screen and Curtains: G. B. Kaler, Ltd. Structural Steelwork: Dorman Long & Co., Ltd.; Redpath Brown & Co., Ltd.; Rubery Owen & Co., Ltd. Suspended Ceilings: Eastwoods, Ltd. Tiling and Terrazzo: W. B. Simpson & Sons, Ltd. Travertine: Walter W. Jenkins & Co., Ltd. Wood Block and Strip Flooring: Hollis Bros., Ltd.



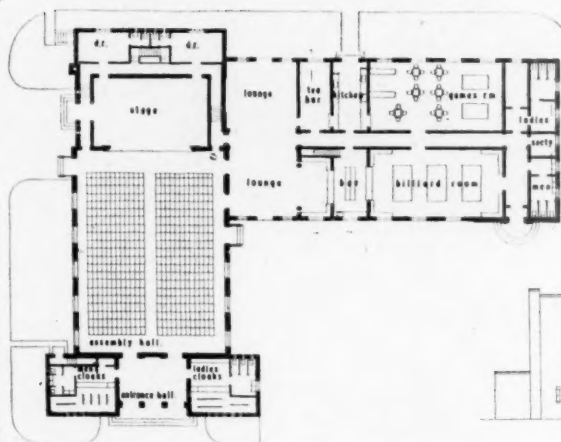
West Elevation



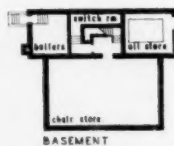
Canteen Plan



Cinema and Clubhouse



Plan



BASEMENT



BEER CELLAR

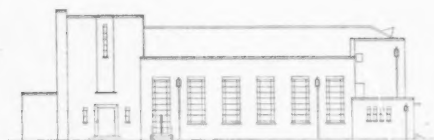
**BUILDINGS
FOR ESSO AT
FAWLEY REFINERY**

Continued from page 456

Materials and finishes: The cinema has a suspended floor of timber construction with strip flooring suitable for use as a dance floor. Walls are of painted plaster, ceiling painted plaster on expanded metal lathings.

Clubrooms: Wood block floors, painted plaster walls and ceilings.

Heating: Hot water radiators served from an oil-fired boiler. **Lighting:** Tungsten in clubrooms, specially built-in lighting troughs in cinema.



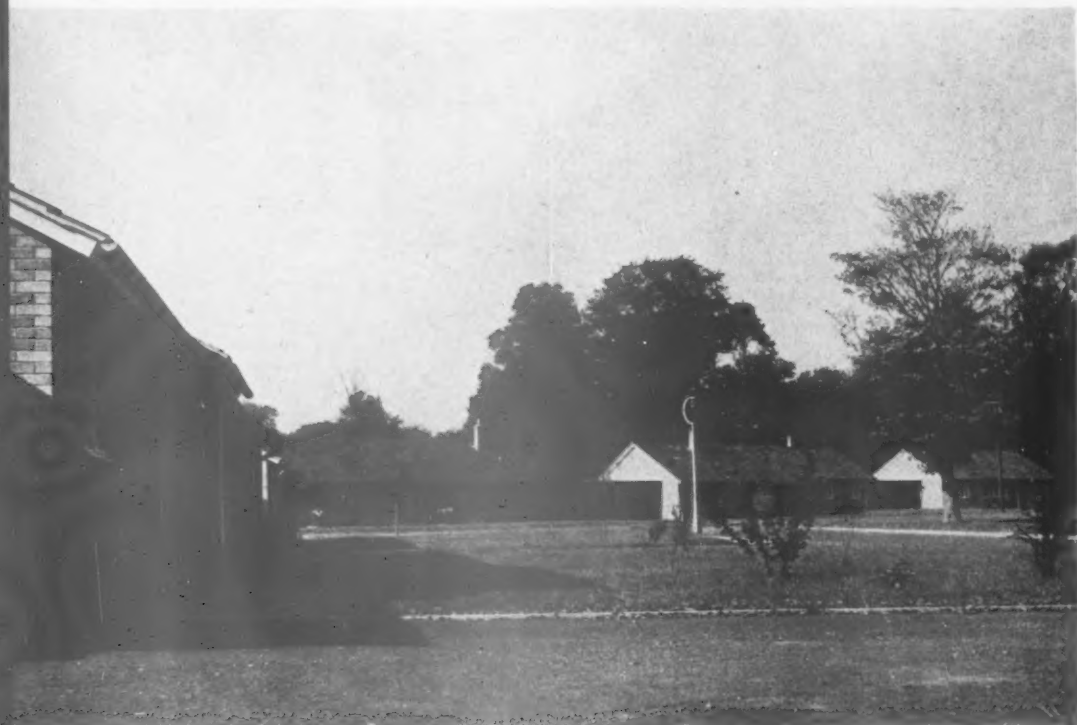
South Elevation



Homes for Married Paraplegic Ex-Servicemen

architects :
NORMAN & DAWBARN

assistants-in-charge : early contracts
G. D. FIELD and Mrs. AUSTEN-SMITH
later contracts: ANTHONY B. DAVIES



UNDER the auspices of the British Red Cross and the Order of St. John this settlement was formed at Garston, Herts, to provide specially designed homes for married ex-servicemen who are permanently paralysed as a result of war injuries, so that they may be enabled to live a free and normal life. The settlement is administered by the Kytes Trust Executive Committee and the grounds of Kytes House with its remarkably fine trees make a beautiful setting for the bungalows.

Twenty-two bungalows are completed and occupied, ten more are under construction. The number may be increased to 48 eventually and the settlement absorbed into the Community of a housing estate which is to be developed by Watford Borough Council on surrounding land.

As the block plan shows, the bungalows are grouped informally around the perimeter of the site to form a central "Green" with Kytes House in the middle. Alterations have been made to Kytes House and the ground floor now accommodates Games Room, Billiard Room, Library, Clinic and Secretary's Office while the first floor has been made into two flats for private tenants who voluntarily assist in the Clinic and Club.

The Bungalows are designed with two or three bedrooms and type plans of bungalows in occupation are illustrated. The buildings include many special features among which are :—(1) No steps : All changes in level are by ramps to allow free circulation of wheel chairs. (2) Corridors are 4ft 9in minimum width. (3) Doors to the Living Room, bedrooms, bathroom and kitchen are sliding on roller bearings. All room doors have 2ft 9in openings. (4) Garages are specially wide to take a car and wheelchair side by side. Garage doors are either roller steel shutters operated by an external winch or overhead spring-balanced, wood doors. (5) All electrical controls, including the heater and cooker change-over controls, are placed at a height convenient for use in a sitting position, so also are the window catches. (6) The bathroom and garage have chains and steel hooks supported from the ceiling joists. The W.C. has handrails to enable the paraplegic to lift himself in and out of the wheelchair. Wash basins are fixed at a height suitable for use from a sitting position and are adjusted to the individual. A seat placed at the back of the bath at the

Continued on page 462

Fireplaces:

A. Bleakley & Co.

Floors—Accotile:

Armstrong Cork Co., Ltd.

Floors—Wood Block:

Hollis Bros., Ltd.

Ironmongery:

Lockerbie & Wilkinson

(Birmingham), Ltd.

Kitchen Plates:

Whittingham & Watt, Ltd.

Picture Rails—Aluminium:

J. H. Sankey & Sons, Ltd.

Radiators:

Gulf Radiator Co., Ltd.

Sanitary Fittings:

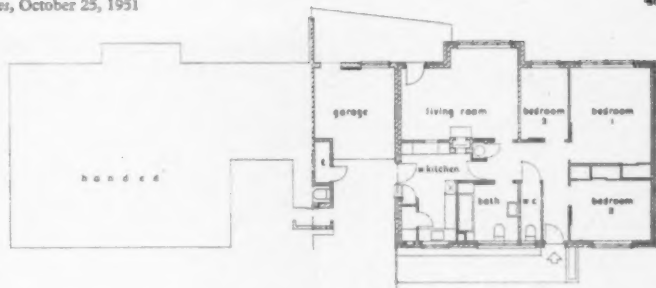
W. N. Froy & Sons, Ltd.

Waterhouse Inspection Chambers:

Trollope & Colls, Ltd.

Windows, Kitchen Fittings and Doors:

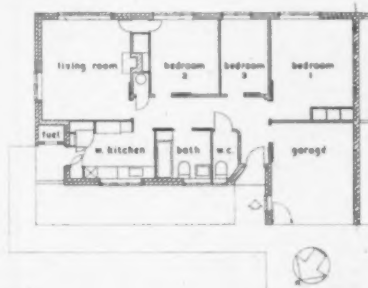
Jayanbee Joinery, Ltd.



scale 0 10 20 30 40 50 in feet

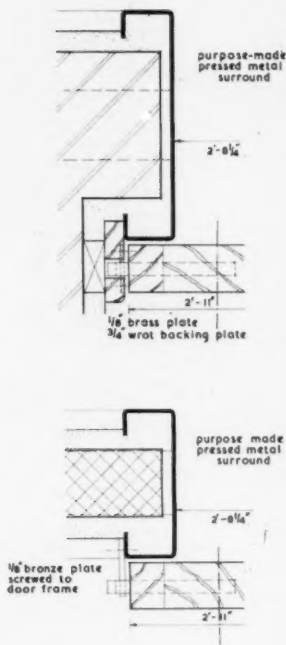


TYPE PLANS



HOMES FOR MARRIED PARAPLEGIC EX-SERVICEMEN





Details of jambs
to sliding doors



Corridors have a minimum width of 4ft 9in. Most doors are sliding on roller bearings.

Each living room has a fine view-window with low sill. Some have a splendid view of the "Green."



Continued from page 459

same height as a wheelchair helps a person to get in and out of the bath.
(7) Built-up fitted wardrobes with sliding doors are provided in each bedroom.
(8) All Living Rooms have a large low-silled window looking out on to the garden.

Construction and Finishes

Walls: 11in cavity with 9in party walls, 4 1/2in internal spine walls. Facing bricks—Leicestershire buff brown multi rustics. Floors—Concrete, finished in English Oak blocks throughout for early bungalows; later bungalows have Oak, Beech or Mahogany in Living Room and B.R.1., dark brown Accotile elsewhere. Internal partitions—2in breeze. Roofs—timber trusses with double Roman dun-coloured sand faced tiles on felt. Windows—E.J.M.A. wood casements. Internal door frames—steel. Ceiling finish—plasterboard skimmed or V jointed "Celotex" insulation board. Kitchen fittings—standard E.J.M.A. with white frames and french grey doors.

Outside colours: R.W. goods unpainted aluminium. Eaves, window and door frames—broken white or cream. Doors—traffic blue or crimson. Garage doors—french grey. Internal colours: hall doors—frame, smoke grey, door—pale primrose. Fireplaces in buff rustic facing bricks or in smoke grey tile surround and hearth with mahogany frame.

Domestic hot water is supplied by an indirect cylinder heated from a back boiler behind the Living Room Grate. Some Bungalows have Signet or Siesta Stoves and others have the Ideal "Neofire" with gas ignition. Background heating is an essential feature as a constantly warm interior is required and therefore hall and bedrooms have electric or hot water radiators.

CURRENT MEASURED RATES (LONDON)

These apply to new work of normal character and some else. The rates are for time and materials only, and carry 10 per cent in stock, so the appropriate essential on-costs should be added. The basis cost of material used in the calculation of these prices is taken from the foregoing table, which carried up to the end of September, 1951.

[COPYRIGHT]

ESSENTIAL ON-COSTS

Fees payable to L.C.C. for District Surveyor:

For new buildings of ordinary construction exceeding 5,000 cubic feet, for every 1,000 feet or part of same up to 1,000,000 cubic feet 1/6, together with an additional sum of £1/10/- at + 1/6
After which allow per 1,000 do. at + 9d.

For alterations and additions:

When £100 the sum of £2/10/-, plus 12/6 for every £100 or part of same, up to £1,000 .. £2/10/- at + 12/6 per 100
When over £1,000 the sum of £8/2/6, and for every £100 or part of same beyond 3/- .. £8/2/6 at + 3/- per 100
Public buildings: Fees as above but plus 50% .. + 50%
Fees in respect of means of escape in case of fire are 1/5th of the above or £2 if greater or in the case of a one-storey building £1 .. 1/5th
Steel framed or r.c. buildings double .. x 2

Allowance to cover National Insurances, Holidays with Pay and Public Holidays, Welfare, Third Party Risk, Travelling and Guaranteed Week is made in the rates attached to the items.

Allow for Fire Insurance do. 1%
Allow for Water for use on the works and apparatus do. 1%
Allow for hoarding, or similar licences in City of London say £10
Do. under Borough Councils per ex month. say 2/6
Allow for Office, Fire, Attendance on C. of W. etc., p. week say £1

Supervision, etc. assessment	Contract value				
	£4,000	£6,000	£12,000	£24,000	£50,000
Cost of admin. ..	6%	5%	5%	4 1/2%	4 1/2%
Agent or foreman (each) ..	5%	4 1/2%	3 1/2%	2 1/2%	1 1/2%
Timekeeper or Watchman (each) ..	2 1/2%	2 1/2%	1 1/2%	1%	1/2%

SPOT ITEMS AND DEMOLITION, ETC.	Per foot run
Hoarding erected and removed ..	12/6
Planked gangway with handrail, etc. do. ..	8/-
Proper gantry, do. ..	60/-
Sleeper roadways ..	12/6
Needling, strutting and shoring including all labours and use and waste in erection and removal ..	15/-
Breaking up and removing hard masses of concrete or brickwork, etc., found in foundations ..	50/-

ALTERATION-DEMOLITION—	Brick	Brick	Brick	Per yard
Cutting out cement concrete or brickwork in small quantities ..	1/-	1/8	2/6	45/-
Do. if either in very small quantities or reinforced ..	1/6	2/6	3/9	68/-
Debris into baskets and removed from inside to outside of bldg. ..	3 1/2d.	5 1/2d.	7 1/2d.	10/6

SCAFFOLDING	Period—
Per Yard superficial	1 month. 3 months. 5 months.
Putlog type—4' 6" lift ..	3/4 5/2 7/-
Do. —6' 0" do. ..	2/8 4/2 5/8
Independent type—4' 6" lift ..	4/5 7/2 9/11
Do. —6' 0" do. ..	3/5 5/6 7/7

EXCAVATION	Common Soil	Loam and Clay	Stiff Clay	Hard Gravel
Per Yard Cube. By hand ..	4/-	4/4	5/1	6/2
Reduce levels ..	7/2	8/10	11/4	12/2
Surface trench ..	2/2	2/10	3/3	2/2
Barrow 25 yds ..	2/2	2/6	3/3	2/2
Fill and ram ..	12/8	12/11	13/5	12/8
Load and cart ..	2/-	2/3	2/8	2/8
Bulk dig and load ..	4/10	5/2	5/10	5/8
Lorry standing and 5 miles travel to tip ..	6 1/2d.	7 1/2d.	8 1/2d.	7 1/2d.
1 extra mile to tip ..	6 1/2d.	7 1/2d.	8 1/2d.	7 1/2d.

CONCRETE	1 1/2 in Ballast Aggregate	Per yard cube
1 : 3 : 6 Cement concrete in foundations ..	63/-	
Do. around grillages ..	65/-	

REINFORCED CONCRETE

1 : 2 : 4—1 in concrete, worked around reinforcement, between formwork in the following (at various levels):

Foundations and surface beds ..	71/-	Per cubic
Walls, 12 ins thick or more ..	79/-	Yard

Sectional inches.	Lintols and beams.	Columns and casings.	Braces and projections.
Up to 36 ..	3/7	3/10	4/-
36 to 72 ..	3/6	3/9	3/11
72 to 144 ..	3/5	3/7	3/9
over 144 ..	3/3	3/6	3/8
Walls 6 ins thick ..			14/6
Do. 9 ins thick ..			21/-
Suspended floors average 6 ins thick ..			15/2

REINFORCING RODS (round) bent and placed—	Per cwt.	1 in	1 1/2 in	2 in	3 in
In floors and beams ..	60/-	55/-	52/-	45/8	
In walls ..	66/-	60/-	55/-	49/-	
In columns ..	71/-	65/-	59/-	52/-	

FORMWORK and Supports (4 times use)—	Floor soffits.	Beams.	Walls.	Columns.
16/6 per Yard.	2/1	1/11	2/1	per super foot.

BRICKWORK

BRICKWORK per YARD superficial reduced to ONE BRICK in thickness (scaffold to add)— In 1 : 3 cement mortar.

Flettons or other similar at 100/9 per 1,000 ..	30/4
Mild Stocks or do., at 208/- per 1,000 ..	43/9
Second Stocks or do., at 233/- per 1,000 ..	46/4
Southwater engineering or similar bricks, at 300/- per 1,000 ..	57/-
Blue Staffordshire wire cut at 401/6 per 1,000 ..	67/6
Deduct if 1 : 1 : 6 Cement-Lime mortar is used in lieu of 1 : 3 Portland Cement mortar ..	2d.
Add if brickwork commences above ground level ..	3/-
Do. if in backing to masonry including cutting and waste for bonding ..	2/6
Do. If circular-on-plan ..	6/-
Do. If in underpinning ..	6/-

BRICKWORK IN THICKNESSES NOT REDUCED—

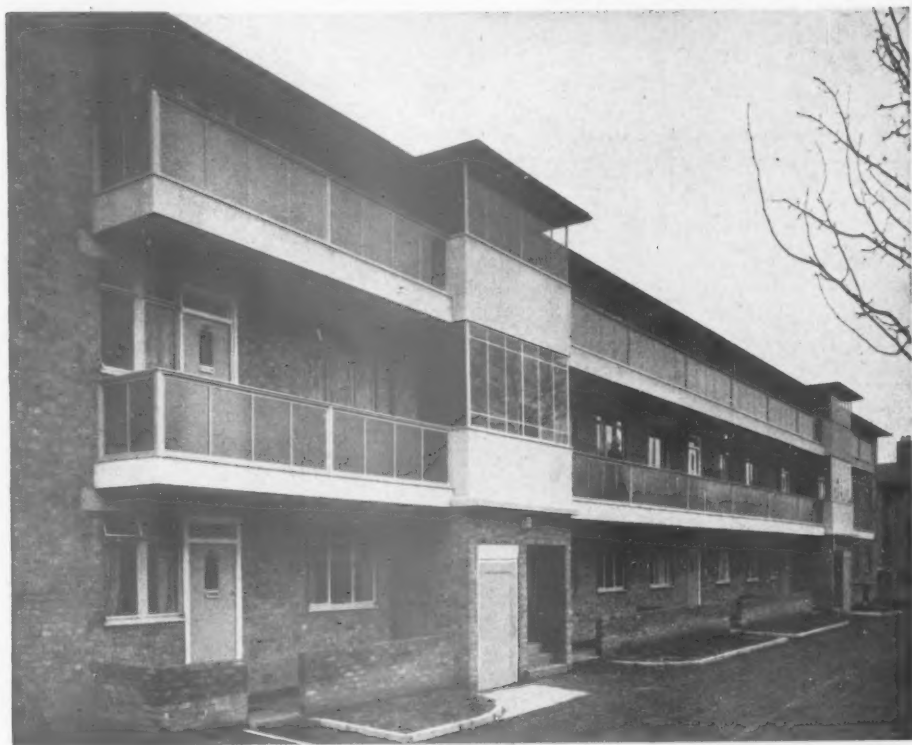
Per yard superficial.	Brick, on edge walls.	Half-Brick walls.	1 Brick finished fair both sides.	1 1/2 "Hollow with 2" cavity and G.I. ties.
In Flettons or similar ..	13/4	16/10	31/11	35/11
In second stocks or do. ..	18/10	24/9	47/4	51/10
Add : for pointing as work proceeds, per side ..	1/3	1/3	1/3	1/3
Thickening to old walls, including cutting, toothing and bonding to same an average total thickness of 1 brick ..	41/7	53/4	Per yard	
Do. all as last but an average total thickness of 1 1/2 bricks ..	56/6	76/6	super.	do.

WALLS BUILT IN SUPERIOR BRICKS—

In 1 : 3 Cement mortar, fair faced and pointed on both sides as the work proceeds—	Half-Brick	One Brick
In first quality Stocks at 243/- ..	29/-	52/6
In red facings at 240/- ..	28/8	52/-
In bluepressed facings at 445/- ..	41/8	77/4

GENERAL AND SUNDRY—

Cut tooth and bond new brickwork to old ..	3/9	per ft
Damp proof course, double slate, horizontal ..	2/6	super.
Do., as last, but vertical ..	3/2	do.
Do., bitumen, Hessian base, do. ..	1/-	do.
Frames, bed and point in cement mortar, one side 4d. per ft run		
Window board of 6" x 6" x 1" rounded on edge		
quarry tiles, bedded, pointed, cut and fitted ..	2/6	do.
Terra cotta air bricks built in and pointed, including flue ..	4/6	7/6
Chimney pots, plain red, set and flauched in cement mortar ..	1ft high	2ft high
Metal windows, assembled, hoisted and fixed, lugs cut and pinned and frames bedded and pointed one side in cement mortar ..	11/9	17/6
	Up to 5ft	5ft to 10ft
	super.	super.
	8/10	11/3
	10ft to 20ft	20ft to 40ft
	super.	super.
	17/6	31/-
Leaving holes through walls for pipes and afterwards making good ..	3d. per in	6d. per in
	in depth	in depth
Cutting do., and afterwards do. ..	9d. do.	1/6 do.
Cut mortices in brickwork or concrete for bolts or dowels and run in with cement grout ..	1/- per in.	in depth, each
Holdfasts of stout hoop iron bent holed and screwed to frame and built in ..	1/-	each



FLATS, THRALE RD., WANDSWORTH, FOR THE L.C.C.

HOPE'S

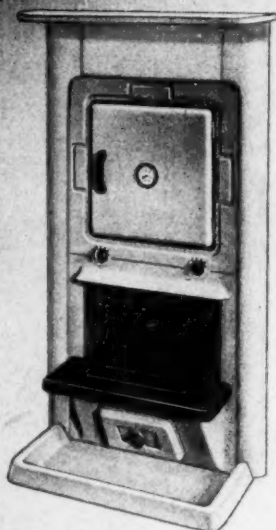
HOT-DIP GALVANIZED

WINDOWS & GLAZED BALUSTRADES

HENRY HOPE & SONS LTD., BIRMINGHAM, & 17 BERNERS ST., LONDON, W.1



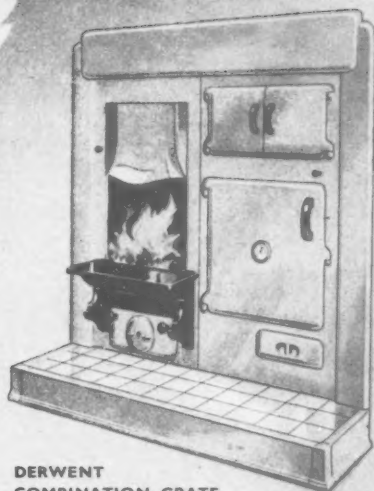
APPROVED BY THE MINISTRY OF FUEL
AND POWER. EACH MODEL CONFORMS
TO THE APPROPRIATE BRITISH STANDARD.



**MILFORD OVEN-OVER-
FIRE COMBINATION GRATE**

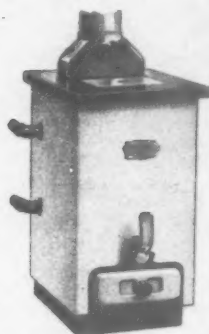
At last, the perfect oven-over-fire grate.
For space heating, water heating, cooking.
Has withstood every test. Boiling space for
five saucepans. Flue cleaning without removing
ovens.

GLOW-WORM



**DERWENT
COMBINATION GRATE**

Efficient and economical fire provides heat for a
large oven, fast-boiling hotplate with extension
hob; hot closet. Ample domestic hot water and
controlled room warmth. Overnight burning.

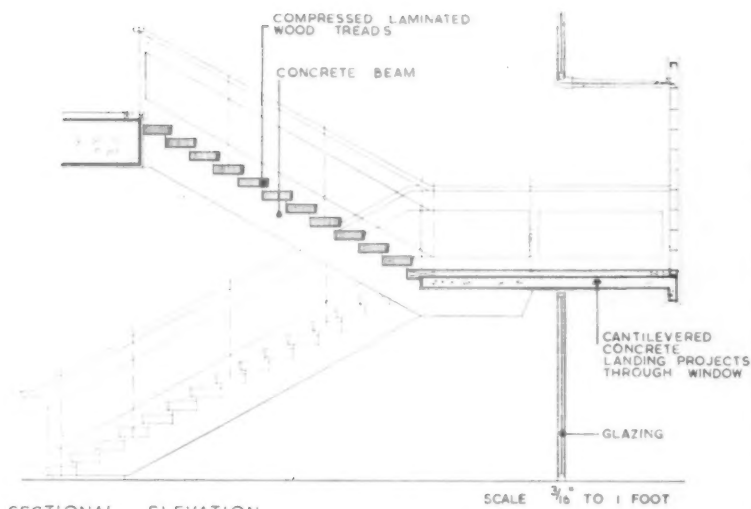


BOILERS B33 AND B22

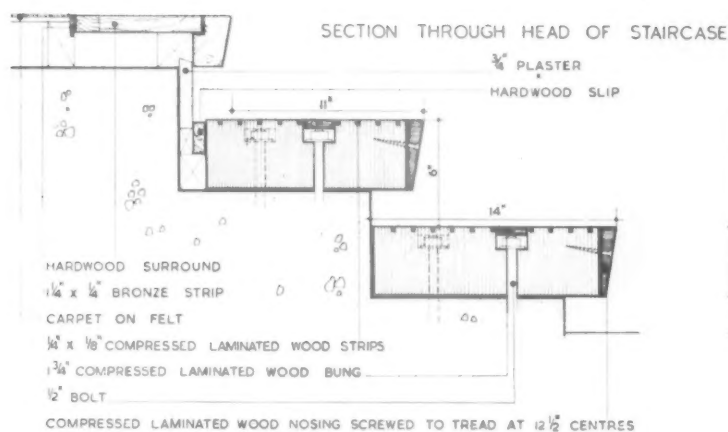
Waterway encircles fire and gives high output per
square foot of heating surface. Bright, clean
finish, minimum cleaning. B33 has steel water
jacket, B22 cast-iron.

GLOW-WORM BOILERS LTD. · DERWENT FOUNDRY · MILFORD · NR. DERBY

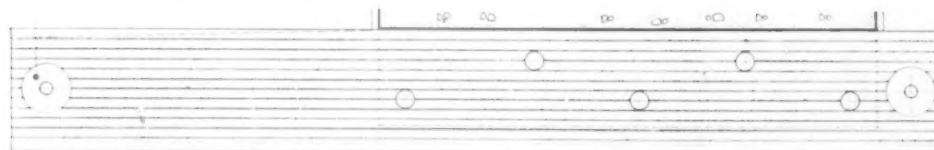
London Showrooms: 22-24, Buckingham Palace Road, London, S.W.1



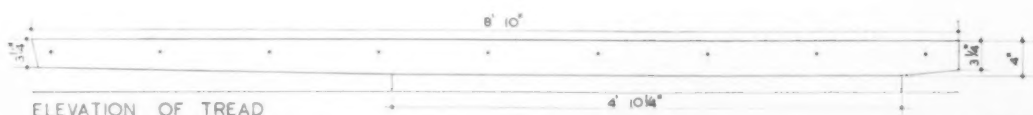
SECTIONAL ELEVATION

SCALE $\frac{3}{16}$ " TO 1 FOOTCOMPRESSED LAMINATED WOOD NOSING SCREWED TO TREAD AT $12\frac{1}{2}$ " CENTRES

BALUSTRADE SUPPORT & COVER PLATE



PLAN OF TREAD

SCALE $\frac{1}{16}$ " FULL SIZE

ELEVATION OF TREAD

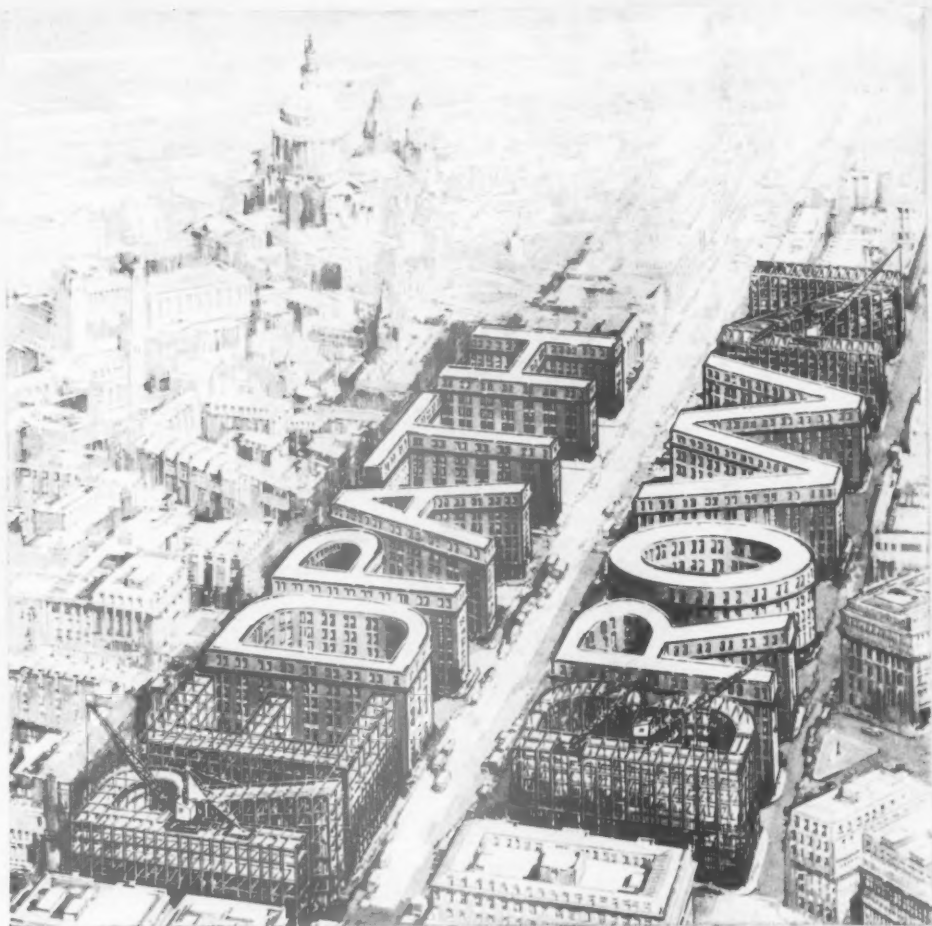


DETAIL OF BALUSTRADE

SCALE $\frac{1}{8}$ " FULL SIZE



CANTILEVERED DOG-LEG STAIRCASE, R.F.H.
ARCHITECTS: ROBERT H. MATTHEW AND J. L. MARTIN



FOR REBUILDING IN STEEL

LONDON OFFICE : 3, DUNCANNON STREET, W.C.2.

also at

EDINBURGH	GLASGOW	MANCHESTER	BIRMINGHAM
BRISTOL	GLOUCESTER	HULL	LIVERPOOL
	SHEFFIELD	SOUTHAMPTON	NEWCASTLE

"TURNALL"

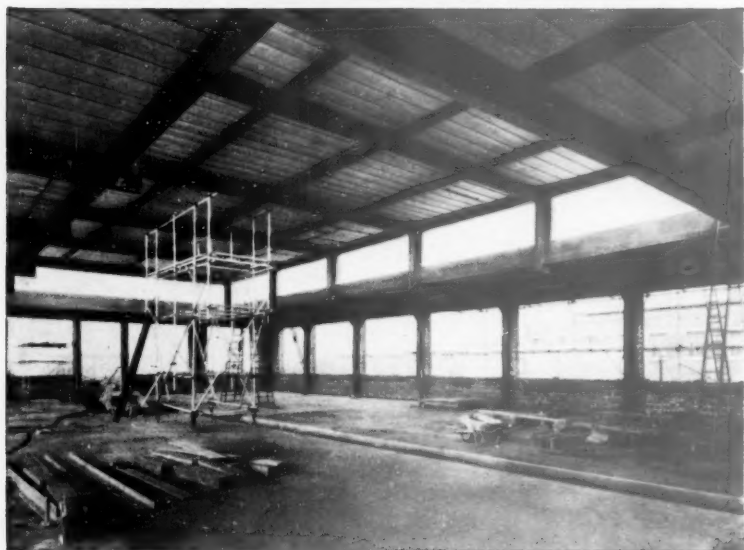
REGD. TRADE MARK

Asbestos-Cement CAVITY DECKING

Patent No. 620,012



in Monitor Construction



The limited weight of "Turnall" Asbestos-Cement Cavity Decking is particularly suited to the form of construction illustrated above, and assists materially in economy of steel.

"Turnall" Cavity Decking requires no concrete filling, is entirely dry construction and provides good thermal insulation. The inset shows:—

A New Building during erection for Furzehill Laboratories Ltd.

Architect: Messrs. T. P. Bennett & Son.



Safe working load 50 lb. per sq. ft.

TURNERS ASBESTOS CEMENT CO LTD

A MEMBER OF THE TURNER & NEWALL ORGANISATION

TRAFFORD PARK

MANCHESTER 17

MEASURED RATES.

BRICKWORK—Continued

FACING—

Extra only over common brickwork (100/9 per 1,000) for facing with superior bricks in *Flemish bond* and pointing as the work proceeds.

Rustic Flettons (125/9)	..	..	3/-	per yard super.
White (180/-)	..	..	7/1	do.
First Stocks (243/-)	..	..	11/10	do.
Reds (240/-)	..	..	11/7	do.
Blue pressed (445/-)	..	..	27/-	do.
If built in English bond, Add 10% to above.				
If do. half-brick stretcher bond, Less 25% off above.				

COPING—

All labour and material in forming brick-on-edge coping with two courses of roofing tiles under and cement weather fillets on both sides, built in cement and pointed as the work proceeds.

Per foot run.		9" thick	14" thick
In picked Flettons	..	3/10	5/8
In first quality Stocks	..	4/6	6/8
In red facings	..	5/-	6/9
Plumbing angles	..	2d.	per foot run
Fair cutting	..	9d.	do.
Fair raking cutting	..	1/3	do.
Fair circular cutting	..	1/3	do.
Fair squint or birds-mouth	..	1/6	do.

ARCHES

Extra over Fletton brickwork for forming window head with red facing bricks set on end and with 4½" soffits and pointing foot run
Do. for rubbed and gauged flat arch in red rubbers set in putty with fine joints foot super 15/-

PARTITIONS

(over 100 Yards)		Per yard super—	2in	2½in	3in
Concrete slab partitions in cement mortar	..	7/9	8/11	10/1	10/1
Hollow terra-cotta, do.	..	9/11	10/10	12/-	
Cutting and bonding at angles, intersections and ends	..	..	4d.	foot run.	

PAVING

Grano trowelled gauged 5 : 2	1in	1½in	1½in	yard super
1×5in skirting, square top and cove bottom	6/9	8/2	9/7	foot run
½in×6in red quarry tile paving	..	..	2/-	foot super
½in×6in do. skirting	..	..	1/6	foot run
Jointless flooring, ½in thick	..	..	20/-	yard super

ASPHALTE (normal conditions and fair quantity)

½in pitch mastic floor in one	..	B.S.		
one coat on felt underlay on prepared concrete base	1450 48		1375 47	
Per yard super				
	Black	Brown	Red	
	10 9	11 10	12 8	
	Unit	B.S.988	Natural Rock	
½in. in two thicknesses on felt underlay on prepared concrete base	..	yard super	12 8	17 4
Ditto in narrow widths	..	foot super	1 7	2 1
½in. skirting 6in high, angle fillet at bottom splayed and turned in at top	..	foot run	1 10	2 1
External angles	..	each	4d.	4d.
Internal ditto	..	each	7d.	7d.
Tanking or Damp Course	..	B.S.1097 43	B.S.1418 47	
Vertical in two thicknesses	..	yard super	16 4	21 4
½in horizontal ditto	..	yard super	11/-	16 10
Vertical in three thicknesses	..	yard super	21/-	28 3
½in horizontal ditto	..	yard super	16 1	25 3
Labour rounded external angle	..	per foot run	4d.	4d.
Ditto internal angle fillet	..	per foot run	7d.	7d.
Ditto double ditto	..	per foot run	1 1	1 1
Collars to small pipes	..	each	2 8	3 2
Ditto to large pipes	..	each	4 9	5 6

DRAINAGE

Per yard run	1 foot in depth	..	3/9
Excavate trench for drain and throw out, plank and strut to sides of trench as necessary and return, ram and consolidate earth after drain is laid and fill carts and remove surplus earth; in firm ground. Add: If loose 50%.	2 do.	..	6/3
	3 do.	..	12/2
	4 do.	..	14 4
	5 do.	..	20 3
	6 do.	..	33 6
	7 do.	..	39 9
	8 do.	..	45 9
	9 do.	..	52/-
	10 do.	..	58 4
	11 do.	..	78/-
25% Do.: If intermediate	12 do.	..	86/-

Portland cement (1 : 6)	Per yard run	4in	6in	9in
concrete bed under drain	18in wide	20in wide	23in wide	
pipes and benching up on both sides	5/6	6/5	8/-	

Glazed stoneware drain pipes with socketed joints and yarn and cement connections.

Per foot run—	4in	6in	9in
"Best" quality in 2-ton lots	2/3	3/3	5/6
Ditto over 100 pieces	2 5½	3/6½	6/-
Ditto less than 100 pieces	2/7	3/8½	6 4
"British Standard" pieces in 2-ton lots	2/5	3/6	5/11
Ditto over 100 pieces	2 7½	3/10	6 5½
Ditto less than ditto	2 9½	4/-	6 10
"Best" quality "tested"			
pipes in 2-ton lots	2 10	4/1	7/-
Ditto over 100 pieces	3 1	4 6	7 8
Ditto less than 100 pieces	3 3	4 8	8 1
"British Standard tested"			
pipes in 2-ton lots	3 1½	4 7	7 10
Ditto over 100 pieces	3 5	5/-	8 7
Ditto less than 100 pieces	3 7½	5 3	9 1
Extra over any of the above for bends, junctions, etc., for additional cost—each			
Gullies, ordinary pattern, 4in outlet, with black iron grid and jointing to drain and surrounding in concrete (List plus 77½%)	..	each	28/- 43/-

The value of two feet run of similar type pipe at above costs.

IRON DRAIN PIPES—

Heavy cast iron socketed and laying and jointing in molten lead—	Per foot run	4in	6in
In main runs	..	8/6	13/6
In branches	..	9/-	13/3
		each	

Extra over last for bends and extra joint	..	25/-	44/-
Do. on do. for junctions and extra joint	..	35/-	61 4
Cast iron gully with 10½in inlet and 4in outlet, composed of hooper and trap, and 9in extension piece and 10½in grating, and jointing all together, and jointing to drain and surrounding in concrete	..	107/-	—
Do. rain water shoe with vertical inlet and inspection cover, and joint up and embed	..	49/-	95/-

MANHOLE SUNDRIES—

Salt glazed straight half-round main channels	..	each	4/6	6/3
Do. curved	..	do.	9/-	13/-
Do. three-quarter section splayed channel bends (Barrows or similar)	..	do.	11/3	16/6
Heavy manhole steps galvanized	..	do.	7/9	—
Fix only manhole covers	..	do.	8/-	—
4in Mica flap, brass faced, f.a.i. valves and fix with molten lead joint	..	do.	24/-	—

ROOFING

ASBESTOS SHEETING AND TILING—

In roofing with side laps and 6in horizontal lap, secured to steel purlins with bolts	140/-	per square
Eaves filler pieces	1/9	foot run
Adjustable ridge	3/3	do.
Barge boards	2/6	do.
Plain roofing tiles, machine made, sand faced, 4in gauge, nailed every 4th course with 1½in galvanized nails to battens (measured separately)	220/-	per square
Extra over last for top edge or abutment cutting	1 1½	foot run
Do. for double course at eaves	2/-	do.
Do. for verges, undercloak, bed, and point	3/2	do.
Do. Valley tiles including cutting and waste on both sides	9/-	do.
Do. Bonnet hips and do. bed and point	10/-	do.
Half-round ridge and bed and point	2/9	do.
Fixing soakers	1/3	dozen

Bituminous felt roofing in two layers, laid breaking joint and bedded with hot mastic and finished with fine dry grit	8/6	yard super.
Do. but in one layer only	6/4	super.

WELSH SLATING—	12"×10" 18"×10" 20"×10"
3in lap, 2 zinc nails to each slate	245/- 262/- 291/-

Additional labours—

At tops, verges and abutments—straight	1/3	1/4	1/5
Do. —raking	1/9	1/11	2/2
At hips and valleys (each side)	1/9	1/11	2/2
At eaves, double course	2/5	2/7	2/10
Do. to falls	3/7	3/10	4/3

MEASURED RATES—Continued

FLOORS AND FLATS

Hollow tile in situ or precast units hoisted, bedded and fixed—
Superimposed load in lb per foot super.

	Span	12 feet	16 feet
Per yard super.		37/-	40/6
		100	38/-
		150	40/-
			45/6

20 lb has been allowed to cover dead load in surface finish
Fair edge to slabs 6d. per foot run
Splay cutting and waste 1/6 do.

CARPENTER AND JOINER

Softwood at min. control cost.

SOFTWOOD CARCASSING—per foot cube—

Labour, materials, waste nails, Plates Joists Rafters Trusses
hoisting and fixing .. 18/- 18/6 19/6 22/6

FLOORING—Per square—

	1in	1 1/2in	2in
Rough boarding	130/-	163/-	203/-
Softwood batten flooring, straight joints, splayed headings ..	132/-	165/-	206/-
Do. grooved and tongued ..	152/-	189/-	239/-

SKIRTING—Per foot superficial—

	1in	1 1/2in	2in
Wrot softwood moulded skirting with grounds and backings plugged ..	3/2	3/9	4/3
Mitres to do. .. 1 1/4d. per sectional inch.			
Fitted ends .. 1d. do.			

SASHES, Fanlights, casements, borrowed lights, etc.—

Per foot super—	Without bars	With bars (2ft sup. in each square)
2in softwood rebated, moulded and fixed	2/3 1/2	3/8
Add if fitted with beads	6d.	1/6
Add if hanging on butts	2/- each	

WINDOWS, hung on lines—

Softwood casement frames, 1in inner and outer linings, 1 1/2in pulley

stiles, 2in sashes, oak sill. Overall size of frames—

Per foot super.	6ft	21ft	32ft	44ft
Window as described	13/-	6/6	5/3	4/2
Add if sashes in squares, about 2 feet super in each	—	1/-	1/4	1/3
Extra for hanging sashes with lines, weights and axle pulleys	25/-	35/-	41/-	53/-

Per foot run—

Softwood, wrot, framed, rebated, 4in Sectional area—

	6in	8in	10in	12in
rounded and fixed 1/4	1/9	2/1	2/5	2/9

FINISHINGS TO OPENINGS—

Softwood linings, tongued at angles and

tongued to frame including grounds and backings

Add if cross-tongued 6d. 6d. 6d. 6d.

Softwood wrot rounded on front edge

and with tongue at back window board including groove in sill and

bearers 2/10 3/5 4/- 4/7

Add for ends to last notched, returned

and rounded 10d. 10 1/2d. 11d. 1/-

Per foot run—

Softwood wrot and fixed in bearers, backings, grounds, fillets, and

similar 3 1/2d. 6 1/2d. 8 1/2d. 11d. 1 1/4 1 3/4

Add if in short lengths .. 1d. 1d. 1 1/4d. 1 1/2d. 1 3/4d. 1 7/8d.

if plugged to brickwork 3d. 3d. 3d. 3d. 3d. 3d.

if framed as in legs and bearers .. 1 1/2d. 1 1/2d. 1 1/2d. 1 1/2d. 2d. 2d.

if rebated or grooved or beaded .. 3d. 3d. 3d. 3d. 3d. 3d.

if chamfered or rounded edges .. 1 1/4d.

if moulded in architraves, capping, etc. 3d.

DOOR FRAMES—

Per sectional inch—

Softwood, wrot, rebated, rounded

framed and fixed 1/8 2/- 2 1/4 2/9 3/0 3/10

DOORS—Per foot super.

2in Softwood, square framed and flat panels, both sides, on butts

1 1/2in do. .. 4/8 5/5 5/9 6/2 6/6 7/-

Add for each side moulded .. 4/1 4/10 5/4 5/8 5/11 6/5

Add for do. flush panelled .. 3d. 4d. 5d. 6d. 7d. 7d.

Add for do. flush panelled .. 6 1/2d. 6 1/2d. 6 1/2d. 5d. 6d. 6d.

	per foot super—	1in	1 1/2in	2in
In shelves, table tops, wrot and fixed ..	2/2 1/2	2/7	3/1	3/8
Do. in divisions and ends framed ..	2/5 1/2	2/10	3/5	3/11
Add if cross-tongued	6d.	6d.	6d.	6d.
Add if buttoned	6d.	6d.	6d.	6d.

SUNDRIES—Per foot run

	In short lengths	In long lengths	Add for cups & screws
Glazing beads, mitred around and fixed with brads ..	6d.	4d.	1d.
Rounded heel or hollow ..		4d.	
Tongued and grooved angle ..		6d.	
Glue blocking		6d.	
Mitres 1 1/4d. per		sectional	inch.
Fitted ends 1d.		do.	

STAIRCASE—

1 1/2in Softwood treads with moulded nosings, 1in

risers tongued both edges and glued, blocked and

bracketed on and including two fir framed

carriages 4/10 each

Do. but in winders 5/9

1 1/2in. cross-tongued landing in framed carriages .. 5/-

2in moulded string 4/8

2in do. ramped 9/4

Ends framed to newel 6/8 each

Tongued and mitred angles 3/6 do.

Tongued heading joints 3/6 do.

Ends of treads and risers housed to string .. 2/- do.

Extra for curtail ends to steps, glued up and

venered riser and solid blocking 70/- do.

Balusters about 2ft 9in long, square

and framed each end 1in 1 1/2in 1 1/2in

3 1/2in x 3 1/2in square newel, framed .. each 2/8 3/1 3/6

Mahogany moulded handrail (3in x 2 1/2in) .. 6/- do.

Do. ramped 11/- do.

Do. wreathed 20/- do.

Ends framed to newels 5/- each

Joints and handrail screws 7/- each

FIXING ONLY IRONMONGERY

To deal To hardwood

Barrel bolts 1/4 1/10 each

Flush bolts 3/- 3/8 do.

Sash fasteners 1/8 2/2 do.

Rim locks and furniture 4/2 5/2 do.

Mortice locks and do. 8/4 12/6 do.

Cupboard locks 2/1 2/7 do.

Casement fasteners 1/8 2/2 do.

Do. stays 1/8 2/2 do.

Grip handles 1/8 2/2 do.

Spring catches 1/4 1/8 do.

Cabin hooks 39/- 48/- do.

Floor springs including oil 10/- 12/- do.

Overhead springs 8/6 10/- do.

Springhinges 8/6 10/- do.

SMITH AND FOUNDER

Basis framed steel joists and hoist and fix .. 55/- per cwt.

Do. but in compound girders 58/6 do.

Do. but in stanchions 66/6 do.

Trusses 75/- do.

Additional cost per cwt. over basic sections for following R.S.J.s.

9in x 7in .. 3 1/4d. per cwt. 6in x 3in 4 1/2d. per cwt.

5in x 3in, 10in x 8in, 12in x 8in, 14in x

8in, 16in x 8in, 18in x 6in, 18in x 7in,

20in x 6 1/2in, 20in x 7 1/2in 6 1/2d. do.

5in x 2 1/2in, 22in x 7in 10d. do.

4in x 3in, 24in x 7 1/2in 1 1/4d. do.

3in x 3in .. 1 1/4d. per cwt. 4 1/2in x 1 1/2in 2/9 do.

3in x 1 1/2in 3/10 1/2 do.

Bolts and nuts, fitted 121/- do.

Forged straps 96/- do.

Wrot iron balustrade 108/- do.

RAINWATER GOODS—

Round cast-iron pipe with socketted joints

caulked with red lead and tow and fixing

with pipe nails and gas barrel distance

pieces to plugs in brickwork 2/9 1/2 3/5 4/4

Extra for shoes 4/- 4/9 6/-

Do. junctions 5/5 7/- 9/-

Do. bends 4/3 5/4 6/9

RAINWATER GUTTERS

Per foot run—4in 5in 6in

Half round C.I. gutters jointed in red

lead and bolted and fixed on iron brackets

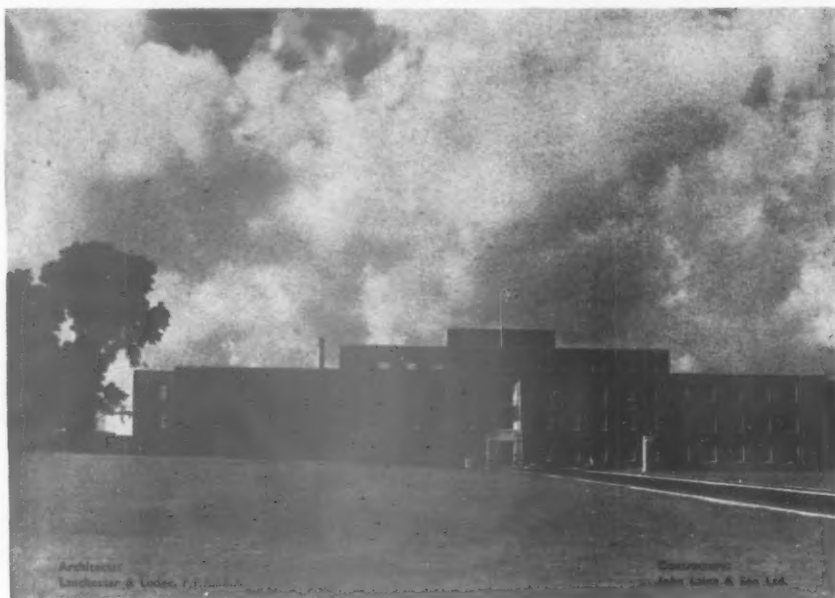
Ogee do. All as last .. 2/6 3/2 4/3

Extra for stop ends .. 2/11 3/7 4/5

Do. angles or outlets .. 2/4 2/7 2/11

Do. angles or outlets .. 4/6 5/7 6/8

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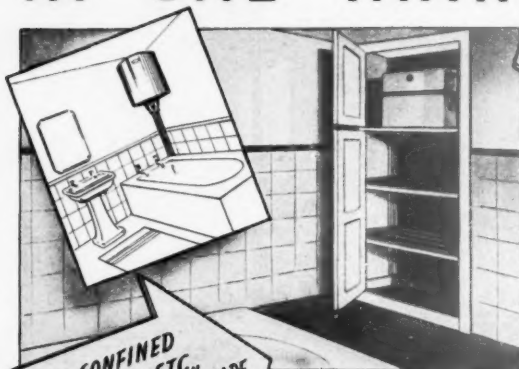
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A COMPLETE HOT WATER SYSTEM IN ONE TANK

**SPECIFIED BY
MORE THAN 300
LOCAL AUTHORITIES**



**IDEAL FOR CONFINED
SPACES CORNERS ETC.,
THE RECESSED TYPE CAN BE MADE
DOWN TO A BACK TO FRONT
MEASUREMENT OF ONLY 12 INCHES**

Simplicity for Plumbing, Compactness for limited spaces, Accessibility after fixing, and far greater Heating Efficiency are the characteristics of the Rolyat system which have outmoded the tank and cylinder and convinced heating engineers and local authorities throughout the country of its superiority.

Several types and sizes are available for both Hard and Soft water areas and in various designs and capacities.

The manufacturers will be pleased to send specifications on request.

ROLYAT^{PATENT} HOT WATER TANKS

THE ROLYAT TANK CO. LTD. · CROMWELL ROAD · YORK

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HOSPITALS
HOTELS
THEATRES
CINEMAS
SHIP
FURNISHING
RESTORATION
ETC. ETC.



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MAPLE & CO. LTD., with their subsidiary
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provide evidence in constructional work, furnishing and decoration

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Messrs. A. McINNES CARDNER & PARTNERS
Builders:
Messrs. VICKERS-ARMSTRONGS LIMITED,
NEWCASTLE
Owners:
Messrs. FURNESS WITTHY & CO. LIMITED

MEASURED RATES—Continued

PLUMBER

EXTERNAL—		Soakers		Flats		Flashings	
4lb Milled Sheet lead		per cwt	235/-	262/-	270/-		
Per foot run.	1in	1in	1in	1in	1in	2in	
Lead main	Fixed	6/7	9/6	13/1	16/11	21/9	30/1
Ditto service	with	6/-	8/1	10/8	13/7	17/1	23/5
Ditto waste	tacks	3/9	5/2	6/7	9/9	11/7	13/7
Bends	..	..	..	..	1/9	3/-	7/9
Solder joints	..	7/8	9/6	11/3	13/5	15/11	21/2
Union and joints	..	12/10	16/5	21/1	28/1	..	..
Stop valve and ditto	..	28/11	37/7	51/10	80/9	..	..
Bib valve and ditto	..	20/8	28/-	..	..	..	..
Ball valve and ditto	..	22/6	31/7	49/5	71/11	..	..
Sleeve and ditto	..	..	..	..	..	21/3	28/9

COPPER TUBES (B.S.659) on brass brackets.

		1in	1in	1in	1in	1in	2in
Tubes per foot run		2/3	2/10	3/1	4/3	5/-	7/6
Couplings straight	each	3/1	4/-	6/-	8/-	10/2	14/2
Do. Bends each	..	6/7	7/10	11/3	15/2	23/1	32/1
Do. Tees	..	6/9	7/10	12/5	16/9	23/2	33/1
Do. cistern	..	4/2	5/8	7/6	9/6	13/4	17/10
Stop cocks	..	23/4	33/-	52/-	92/-	137/-	212/-

BLACK TUBING fixed with pipe brackets. Class C.

Tubes per foot run		1in	1in	1in	1in	1in	2in
		1/4	1/6	1/10	2/3	2/9	3/7
Bends, and fixing	..	3/4	3/11	4/10	6/5	8/-	11/8
Tees and ditto	..	3/10	4/7	5/6	7/-	8/6	12/6
Fire bends	..	1/-	1/1	1/2	1/6	2/-	3/6

Coated iron L.C.C. weight soil pipe and fixing with pipe nails and distance pieces and joints caulked with molten lead (M)	2in	4in
Extra only for bends and joint	9/-	14/- each
Do. junctions and joints	10/3	17/6 do.
Do. cleaning doors	9/9	10/6 do.
Domical wire guards	2/3	2/4 do.

PLASTERER—		Yards	super.	Narrow	Sundries
Lime and 1" Render and set		4/9	—	Increase	Quirk 2d.
hair	Do.	1" Do. float and set	6/-	—	in cost
Do.	1" Do. float and set	6/-	—	up to 3"	Arris 3d.
Sirapite	1" Skimming coat	3/3	—	75%	Fair edge 2d.
Do.	1" Render and set	6/3	—	3" to 6"	Rounded edge 4d.
Do.	1" Do. float and set	8/-	—	60%	Flush bead 1/3
Portland	1" Backing coat	3/9	—	Do.	6" to 12"
Do.	1" Plain face	6/3	—	40%	Mouldings per inch 4d
Do.	1" Screed	3/9	3/1	—	Metres—1ft
Do.	1" Screed	4/8	4/-	—	Joining new to old plastering 3d.
Keenes	1" Skimming coat	4/3	—	—	—
Plaster board and scrim	..	5/6	—	—	—
Metal lathing 1/2" x 24 gauge	..	4/6	—	—	—
Dubbing up to 1/2" thick	..	1/9	—	—	—
1/2" x 6" x 6" White or cream glazed wall tiling and setting on prepared screed	..	..	..	35/-	yard super.
Rounded edge to do. 3 1/2 foot run; angles for same 3 1/2 d. each.	..	..	..	..	..
Cutting and fitting tiles around pipes, clips, etc. 9d. each.	..	..	..	..	..

POLISHING		Foot super	Foot run
NEW WORK—	Staining, bodying-in and French Polish.	2/3	1/6
Staining and wax polishing on hardwood	..	1/-	8d.
OLD WORK—	Cleaning down old work and repolish.	10d.	—
Stripping, preparing and repolishing	..	2/6	1/8

INTERNAL PAINTING		Foot super	Foot run
With white lead base in common colours, with brushes.	..	..	..
ON WOOD—	General surfaces	2/4	4/5
..	..	6/1	1/7
..	..	Yard super	..

Running lengths not exceeding 3' wide	3 1/2 d.	6 1/2 d.	9d.	2 1/2 d.	Yard run
Do. 3' to 6' wide	5d.	9 1/2 d.	1/-	3 1/2 d.	do.
Do. 6' to 9' wide	7 1/2 d.	1 1/4 d.	1/7	5d.	do.
Do. 9' to 12' wide	10 1/2 d.	1/6	2/-	6 1/2 d.	do.
Sash square each side	4/11	8/5	11/4	2/11	per doz.
Do. in large squares	7/1	12/-	16/2	3/10	do.
Opening edges	7d.	1/2	1/9	7d.	each
Casement frames	..	4 1/2 d.	8 1/2 d.	1/-	3d. Yard run
each side	..	..	..	..	..
Mullions or transoms, do.	..	6 1/2 d.	11 1/2 d.	1/3	4 1/2 d. do.
ON PLASTER—	..	One coat	Two coats	Three coats	..
Paint on surfaces	..	2/2 1/2	4/2	5/9	Per Yard super
Do. on mouldings	..	2/6	4/11	6/8	do.
Do. on enrichment	..	4/4	8/3	10/5	do.
ON STEEL—	..	1/11	3/7	5/-	do.
Paint on structural steel	..	3/1	6/-	8/4	do.
Do. on roof trusses	..	..	..	..	..
Do. on metal windows measured over all on both sides, divided into squares	..	3/-	5/2	7/3	do.
Do. divided into large squares	..	2/7	4/5	5/9	do.
Do. divided into extra large squares	..	2/1	3/8	4/11	do.
Do. on opening edges	..	9d.	1 1/5 d.	1/11	each
Do. on rain water pipe	..	7d.	1/3	1/8	Yard run
Do. on do. gutter	..	1/-	2/1	2/10	do.
Do. on small pipe	..	2 1/2 d.	5 1/2 d.	8d.	do.

GLAZING (To New Work)

Polished Plate Glass, ordinary substance (about 1/2 in), glazing quality, in the following sizes, glazed complete, in quantities exceeding 100 feet superficial—

In plates not exceeding 2 feet super in each		Per foot super
Do.	3 feet	3/8
Do.	5 feet	4/-
Do.	45 feet	4/2
Do.	100 feet	5/5

Add extra price for glazing with screw beads or clips 3d. per foot super.

Do. if glazing bedded in washleather or velvet 6d. per foot run.

SHEET GLASS glazed complete (100 feet super or more) foot super in new work—

Ordinary glazing quality (average) 1 1/4 1/6 1 1/8

Sundry glass and glazing all as last described to wood—

1in Hammered	..	..	..
Double cathedral rolled	..	..	..
Rimpled	..	..	..
Waterwhite	..	..	..
1in Arctic	..	..	1/6 per foot super
Majestic	..	..	..
Flemish	..	..	..
Pinhead Morocco	..	..	..
Prismatic	..	..	2/2 do.
1in roughcast	..	..	1/7 do.
1in wired do.	..	..	1/9 do.
1in Georgian wired do.	..	..	1/9 1/2 do.
Wired Arctic	..	..	2/8 1/2 do.
Add for metal casements or frames glazed with screw beads	..	..	2 1/2 d. do.
Extra for do. with quick drying-putty	..	..	1 1/2 d. do.
Copper clips	..	Ad. each.	Lead or zinc clips .. 3d. each.

PAINTER AND DECORATOR

DISTEMPERING—In common colours, put on with brushes—

ON PREPARED SURFACE.		1 coat	2 coats	Add if required for (finish) (under-sealing Stipp-ling)
per yard super—

Ordinary distemper on flat surface of plaster	..	6 1/2 d.	1/-	5d.	2d.
Vashable do. on do. of plaster	..	9 1/2 d.	1 1/4	5d.	2d.
Add if in margins, narrow widths or panels	..	30%	30%	20%	50%
Add if on mouldings	..	50%	50%	45%	—
Add if on enrichments	..	160%	160%	115%	—

PAPERHANGING

Hanging only—		Per piece—	Lining	Pattern
On walls	3/9	4/4
On Stairs	5/3	6/6
On ceilings	5/-	5/7

News of the BUILDING INDUSTRY

THE BUILDING EDUCATION CONFERENCE, an annual discussion on educational matters affecting the Building Industry and Training establishments, is organized by the L.M.B.A. The conference was held this year on October 19 at 47, Bedford Square, the President, Mr. Dudley F. Cox, was in the chair.

The agenda was divided into three main sections:—

- (a) Craft training.
- (b) Advanced training.
- (c) Post advanced training.

Mr. J. G. Stalley, F.B.I.C.C., drew attention to the drop in evening students and day students to part-time day classes. The industry, he said, was not facing up to the problem. The chairman thought all would agree that the shortage of boys attending classes was general and Mr. Woodbine Parish referred to the 1930 birthrate as part of the cause of the trouble. Mr. Parrish spoke of the difficulty of persuading boys to go to schools since there was no means of bringing pressure to bear. He also pointed out that the cost of training apprentices, though borne in the first place by the employer, was passed on to the building owner. For the latter reason, in view of the need to keep building costs down it was not possible to raise the age for day attendance classes to 21.

The need for less divergence between methods of running courses in different schools was mentioned by Mr. N. Howdill, B.Sc., D.I.C., A.I.Struct.E.

For the L.M.B.A., Mr. Parrish said that educationists could help here by explaining and co-ordinating the type of classes held. Co-ordination of syllabuses was also called for, since apprentices do move about and interchange should be possible.

On the subject of age of entry to Technical Colleges there was considerable discussion and it was agreed to call a further special conference to deal with this subject.

Mr. Woodbine Parish said that a simple document was needed to explain to parents and employers the different arrangements for age of entry.

Mr. T. E. Scott, of the North Polytechnic, said that the terms of apprenticeship agreements and the provisions of the Education Act were out of step with the practical considerations governing the technical colleges.

On the subject of reports it was said that more standardization is necessary, both in method and timing. A plea was made by the builders that reports for each boy should be on separate sheets and that some indication should be given as to whether duplicates had been sent to the parents.

Speaking in the advanced training discussion, Mr. J. S. Walkden, Head of the Building Department of the Regent St. Polytechnic, sought advice on the ideal way of presenting information to students. Mr. T. E. Scott, in reply, said that the one thing that was important was that students must be taught in the way that they are going to use their instruction. The greater use of film strip in education of students was advocated by Mr. Parrish. The problem of training builders' office staff was discussed and Mr. Parrish said that there were enough boys in London to warrant the formation of a semi-technical semi-commercial school for cost clerks, estimators, storekeepers, etc.

Mr. Pattison, of the S.E. Essex Technical College, pointed out that the danger

CORRECTION

In the article describing and illustrating the New Employment Exchange at Manchester, published in our issue of October 11, acknowledgments should have been as follows:

"The pre-war building was planned and designed under the Chief Architect of the (then) Office of Works, by Mr. David Thomson, F.R.I.B.A., Architect. The building as now erected was carried out under the supervision of Mr. E. H. Montague Ebbs, A.R.I.B.A., Senior Architect of the Chief Architect's Division and Mr. A. M. Palmer, B.Sc., Senior Engineer of the Chief Engineers Division, Ministry of Works."

of sub-division of specialist types was that classes became too small to be workable.

On this score Mr. Scott said it was high time to bring the needs of the industry to the educational authorities. Industry must say how they would like it done. He suggested the formation of a permanent Board of Building Education.

The chairman, Mr. Dudley F. Cox, President of the L.M.B.A., agreed that the problems of training office staffs had been somewhat neglected and that there was room for vast improvement. He had noted the matter and promised to do something about it.

AT THE R.I.B.A. EXAMINATION for the Office of Building Surveyor under Local Authorities held on October 3, 4 and 5, 1951, eleven candidates presented themselves and the following were successful: Mr. Frank Berry, Mr. Stanley R. Cardwell, Mr. Stanley H. Coe, Mr. Norman Harvey, Mr. Frank Robinson, Mr. John G. Stean.

DR. JOHN BARNETT, B.Sc., technical manager and chief inspector of Thorn Electrical Industries, is joint secretary in a team of specialists at present in America studying inspection methods and their function in the organization of industry.

Other members of the team of eight which will make a report after its return on November 28, include Mr. E. D. Van Rest, Principal Scientific Officer to the National Physical Laboratory and Mr. P. R. Snadden, inspector to British Thompson-Houston Co., Ltd.

THE BUILDERS CLERKS' BENEVOLENT INSTITUTION held their sixty-fifth annual dinner at the Café Royal on October 9.

Mr. W. Kirby Laing, M.A., A.M.Inst.C.E.—this year's president—thanked all contributors to his appeal for funds which, so far, has resulted in contributions totalling £1,170.

Mr. Gordon T. Tait, F.R.I.B.A., praised the work of the president, past-presidents, committee and officials of the institution.

THE COUNCIL FOR CODES OF PRACTICE for Buildings has now issued in final form Code 402.401, "Portable Fire Extinguishers." This Code makes recommendations on the design, installation, testing, inspection and maintenance of portable fire-fighting appliances for general use in buildings.

THE L.M.B.A. TECHNICAL INFORMATION SERVICE is developing on a solid foundation. Latest figures show that well over 100 enquiries have been received and are still coming in at an average rate of about one per working day. Some 30 members have referred more than one enquiry, and this indicates that they have found it of benefit and real value. Nearly half of the enquiries have been concerned either with plastering, decoration or flooring questions.

In his latest letter to Members the Director of the L.M.B.A. states that the future of the service is entirely dependent on the use made of it by builders and that members of the L.M.B.A. are entitled to make the fullest use of it as it is financed by the association.

THE INSTITUTE OF ARBITRATORS have agreed, with L.M.B.A. support, to stage a practice arbitration. It will take place on the evening of November 7, in the Henry Jarvis Hall of the R.I.B.A. in Portland Place.

Mr. Sydney Tatchell, C.B.E., F.R.I.B.A., has agreed to act as arbitrator. Mr. A. W. Yeomans, vice-president of the L.M.B.A., is the claimant, and the respondent, the employed that is, is to be represented by his architect, Mr. F. Scarlett, F.R.I.B.A., and his quantity surveyor, Mr. E. H. Palmer, F.R.I.C.S. Counsel for the claimant is Mr. J. Fox-Andrews, Barrister-at-law, and for the respondent Mr. L. Harragin, Barrister-at-law.

Admission is by ticket only. Tickets may be had on application to the secretary of the L.M.B.A. at 47, Bedford Square, W.C.1.

THE POSSIBILITY of establishing courses for fixers was mentioned to twenty members of the Wimbledon Builders' Association when they visited the Coal Utilization Joint Council's Training Centre at Vauxhall, London, on October 12. The W.B.A. includes members of the London Master Builders' Association and the Federation of Master Builders.

Instructors demonstrated on many of the 150 modern solid fuel appliances, the important points to be noted if the fixing was to be efficient, the builders, through their vice-president, Mr. J. R. Piper, expressed a desire to be allowed to make a second visit in the near future so that they could have an opportunity of learning more about the fixing of appliances.

APPLICATIONS to import plywood, laminboard, blockboard and battenboard from Japan should be addressed to Timber Control, Lacon House, Theobalds Road, as from October 19, 1951, and not to the Import Licensing Branch.

THE COUNCIL FOR CODES OF PRACTICE for Buildings has now issued in final form Code 123.101, "Dense Concrete Walls." It deals with the construction of solid and cavity walls of dense concrete (as distinct from lightweight or no-fines concrete), both plain and reinforced. Full information is given on surface finishes and damp-proof courses, and detailed recommendations are made in respect of setting out, scaffolding, and formwork on site.

HILLS LANTERN LIGHTS

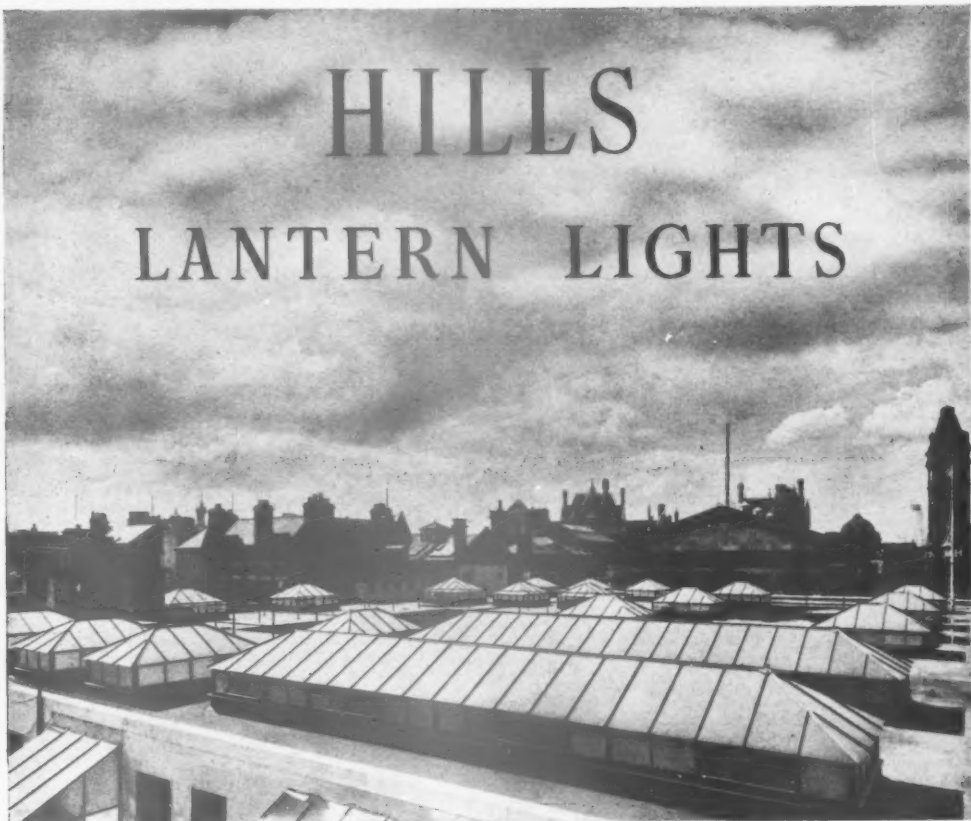


Illustration shows Hills Lantern Lights on G.P.O. Building, Birmingham, by kind permission of the Ministry of Works.

Hills Lantern Lights—scientifically designed to provide the maximum benefits of natural lighting and controlled ventilation—transform overheads into assets when installed in flat roofed buildings. Particularly noteworthy features are:—(A) Special lead clothed Ridge and Hip Bars, impervious to all weather conditions, and designed to eliminate the heavy cost of separate lead flashings. (B) The Finial connection in malleable iron, which forms a junction of perfect strength and rigidity. (C) Interlocking Cast Iron Corner Posts, providing a substantial horizontal and vertical location seating of neat design.

Available in a wide range of Standard Sizes, Hills Lantern Lights can also be made to specific dimensions. All exposed steelwork can be rust-proofed by hot dip galvanising. Hills also specialise in Lead and Aluminium Roof Glazing, incorporating any degree of ventilation from cord-operated single pane opening lights to continuous stretches, electrically operated by tension rod gearing. List No. 209, gives full details of the complete range.

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Hilton

GOOD, BAD OR INDIFFERENT?

No. 55.—By A. FOREMAN

Savings in Plumbing

THERE are many economies that could be made in materials which are imported and are at present scarce if more thought was given to the selection of the properties of the actual material to be used and to methods of application such as jointing. It is surprising how long it takes for improved methods and materials to penetrate generally in some trades. I recollect that during the war B.S.I. issued three memoranda relating to B.S.219 for soft solders, calling attention to more economic methods of using solder and of jointing lead pipes in order to save both tin and lead. It seems to me that conditions to-day are not dissimilar from those of 1942 and that we should take steps to encourage the use of these different methods. It might be a good idea if these were brought up-to-date and re-issued, together with information on the economic types of lead alloy pipe, as a single document at a small price.

It is possible, by the use of certain methods of pipe jointing, to save a very large proportion, and in some cases as much as three-quarters, of the solder and also a certain amount of time. The types of joint I have in mind are by no means new; if my recollection serves me right, I saw soldered spigot and socket joints used for lead pipes at least 20 years ago. The other types of joints I have in mind are leadburned joints, cup and cone joints, finger wipe joints, and patent joints such as the "Amalgaline" joint. All these joints show a considerable saving in time, material and trouble over the traditional wiping method but I still find many plumbers who either do not know these joints, are too conservative to use them, or are not equipped to make them.

These various joints require just as much skill if they are to be satisfactory but they do not present any difficulty to the properly trained craftsmen. I wonder if one of the reasons why they have not been more widely used is that they are given insufficient attention in the technical schools where the craftsmen are trained. The tools required are few, simple and inexpensive.

The cup and cone joint and the finger wipe joint are very simple to make and require very small amounts of solder compared with the wiped joint, but they are less economical than the spigot and socket joint. Although the spigot and socket joint is stronger than the cup and cone joint it requires only a very small amount of solder. It requires some simple but special tools which are, however, readily available. The "Amalgaline" joint requires a pair of special metal cutters, the one for internal and the other for external shaping but this joint is very economical in both lead and solder for lead to lead connections, more so even than the spigot and socket type where the overlap requires some additional length of pipe.

Another form of jointing which should be more widely used is the leadburned joint. This requires reasonably skilled craftsmen to ensure that there is no overheating of the lead as this may cause failure. The cup and cone joint has been widely used in the gas industry but I believe its use in connection with water is less common. I have heard it said that some water companies do not like leadburned joints for pipes under pressure,

but I cannot think this matters in buildings, at least in those up to two-stories in height, as the pressures involved, except possibly on rising mains, should be well within the limits that a properly leadburned joint would stand; even if such joints are unacceptable on pressure pipes they certainly may be used for all joints on soil, waste and vent pipes where they are economical. The soldered spigot joint is excellent for pipes under water pressure. I have heard arguments against certain of these joints on the score that they are less neat than wiped joints. I do not agree however. The soldered spigot joint is, in my opinion, the ideal brass to lead joint which is the type so much needed in domestic plumbing for connections such as to taps and valves. They are so simple and easy to make.

There is one point of very great importance in connection with the use of these various types of joint, namely that the right grade of soft solder is used. British Standard 219 gives a wide range of solders which are suitable and by specifying to this one can be assured of obtaining a consistent material. For the soldered spigot joint Grade A soft solder to B.S.219 should be specified. The method of making the joint is so simple. A special cutting tool is used to chamfer the inside of the pipe, then a specially shaped mandrel is inserted and driven into the pipe to open it, the top is shaped with a wooden cone, the tail piece is cleaned, tinned and inserted, the whole heated with a blow-lamp and fine solder run in between the pipe and the tail piece.

With regard to economy in lead pipes,

there are no less than three British Standards covering the types used in the building industry. Firstly, there is the normal lead pipe, which is covered by B.S.602, secondly B.S.603, which is a type made from B.N.F. ternary alloy No. 2 and shows a considerable saving in material as a 4 lb. $\frac{1}{2}$ in pipe can be used for the same pressure range as the 6 lb. pipe to B.S.602. The third specification is for pipes of a silver/copper/lead alloy, B.S.1085, and this also shows savings in material approximating to those of B.S.603. There is much food for thought as to means of obtaining economies in lead by the examination of these B.S. and taking care to order the one which is most economic for the job. All lead and lead alloy pipes may look rather alike but there are in fact great differences between them. The M.O.H. Model By-laws, on which very many local water undertakings base their By-laws, provide for the use of any of the three types of pipe and for joints, they refer to wiped soldered joints known as "plumbers joints" or some other equally efficient and suitable watertight joint.

There is no difficulty in knowing these different classes of pipe as all those made to comply with the British Standards are very clearly marked with the B.S. number, the nominal diameter and the weight per yard. The reasons for the advantages of the alloy pipes would require too long an explanation to include here. For those who do not know about them information on both the pipes and joints mentioned here is available in printed form from the Lead Industries Development Council.

BUILDING STEEL

Details of Allocation Scheme

As already announced by the Ministry of Supply, the allocation of steel, which was freed from control in May, 1950, is to be re-introduced. In general, the scheme will be the same as that which was then in force except that alloy steel will be controlled under a separate scheme and cast iron will not be included in the allocation arrangements.

The purchase of manufactured fittings such as steel windows, cookers, meters, will not require an authorization. For sheet steel the present arrangements will continue.

A notice has been sent to all registered building and civil engineering contractors telling them how to apply for steel authorizations for licensed building work in progress at the time, this includes steel for which the Preferential Treatment Certificate or D.O. Symbol has been awarded. For this purpose Form M.O.W. 2065 is to be used and one form submitted for each job. Additional copies of the form are available at Ministry of Works' Licensing Offices. Henceforth all applications for new building licences should state the requirements of steel for delivery after December 2.

Builders engaged in contracts for Government Departments, Local Authorities, and nationalized undertakings, where the work is not subject to licence, should look to the Department or Authority for whom they are working to ensure that steel authorizations are issued before December 3, to cover all their

needs after that date. This applies both to new work and to work in progress. It will be for Local Authorities to issue steel authorizations for private enterprise housing which they have licensed (after application by the licence-holder on M.O.W. form 2065); it will also be the duty of Local Authorities to secure from the Ministry of Local Government and Planning steel authorizations to cover the requirements of their own housing schemes, whether carried out by direct labour or under contract.

A special arrangement is being made for conduit and other steel required for electrical installation work. Electrical contractors who are members of the Electrical Contractors Association (or the E.C.A. of Scotland) are being asked by their Association to submit their requirements of steel for use directly on electrical installation work in building. Other electrical contractors should submit their requirements of steel for this purpose either to the Association at Africa House, Kingsway, W.C.2 (or in Scotland, at 55, Frederick Street, Edinburgh, 2), or to the Directorate General of Building Materials, Ministry of Works, Lambeth Bridge House, S.E.1.

Small quantities of steel may be bought in any one month without an authorization, on submission of a certificate made out in a form to be specified in the Order to be made by the Ministry of Supply. Details can be obtained from the Ministry of Works.

The Association of Building Technicians held a discussion on October 15. The subject was:—

"THE CHALLENGE TO THE BUILDING INDUSTRY"

Sir Hugh Beaver was chairman. The principal speakers were Mr. Stephen Hudson, President of the N.F.B.T.E. and Sir Luke Fawcett, C.B.E. President of the N.F.B.T.O. The discussion was opened by Mr. Kenneth Campbell, A.R.I.B.A.

There were considerable differences of opinion amongst speakers at this meeting as to what the challenge to the Building Industry is. Inevitably, it seems, politics cannot be kept out of discussions such as this. The chairman said that this was, perhaps, not a bad thing. But the key to the solution of the Building Industry's problems is probably contained in a platitude by one of the speakers in the discussion who said: "Politicians are not going to solve the industry's problems."

True, politicians who know little of building matters cannot solve the problems which confront the industry but they can provide, or at least strive to provide, the means of solution.

Before any major step forward in this direction can be taken, however, there must, it would seem, be some measure of agreement as to what the salient problems are.

This agreement is not noticeable at present to judge from the speeches made at the A.B.T. discussion.

Sir Luke Fawcett, who followed Mr. Stephen Hudson, spoke—once again—for Nationalization. The challenge to the industry, he said, was a challenge to him. Speaking in his capacity of President of the National Federation of Building Trades Operatives, he said: "It is our industry because we are the majority and we do the work."

Sir Luke, who condemned building employers for being in the business for profit, said that builders would go to other work if there was more profit to be got from it.

Building houses for low-paid workers, Sir Luke said, was hardly a profitable proposition for private enterprise builders. Nevertheless, he said that he could not understand why employers should be worried by the idea of Nationalization. If it came about, he said, "we should want your brains and organizing power."

An objective and practical approach was taken by Mr. Stephen Hudson, to whom the challenge presented four distinct problems. These were, first, the needs of the defence programme, second the need to build—urgently—a large quantity of houses and ancillary buildings, third the need to provide accommodation for expanding industry, and fourth the need to maintain sound existing buildings so that their decay would not add to the load of work to be done. For the last-mentioned there was no better man than the small builder.

The programme offered scope for every type of operative, technician and professional man, said Mr. Hudson.

Speaking of materials Mr. Hudson said that present shortages affected designer, management and operative: the designer because changes in availability necessitated alteration in design; management because shortages made progressing and organization almost impossible; operatives because they feared—reasonably—that they might work themselves out of work.

As an example of the effect of shortage

of materials on speed of work Mr. Hudson spoke of his own area in the north of England where, if the number of bricks were divided by the number of bricklayers, the rate of laying worked out at 22 bricks an hour: a figure, which he thought even Sir Luke Fawcett would agree, was low.

Shortages also created difficulty in getting competitive prices for work.

One solution—one answer to the challenge—therefore, was to get materials on to the job if the quality, quantity, cost and place in which they were needed.

The imported material situation could only be solved by the Government—whichever it might be. The adequate supply of home-produced materials depended on the fixing of a firm long-term policy so that employers, who are willing to expand their work and lay down money in doing so, could be assured of some certainty.

Mr. Hudson spoke about the difficulties of the designer who may design a building one month and by the time it is getting into production the materials on which the design is based are unobtainable and the whole thing has to be changed. The difficulties in the supply of materials, uncertainties of deliveries and so on place upon management the almost impossible task of trying to work to some organized timetable. As far as the designing of buildings was concerned, he felt sure that the designer and constructor had got too far apart and there was not enough feeling on the part of the designer for the problems of the constructor. He hoped that they would come a little closer together and he believed his Federation would be extremely glad to offer whatever facilities it could to those training as architects to get practical experience on sites. The designer must take more note of those materials which are readily available instead of using out of date specifications and he should make more use of the results of modern research into new materials and methods of construction. From time to time, said Mr. Hudson, we get quite seriously taken to task for being sort of allergic to research, but in the vast majority of cases the builder has little or no say in the matter as he is told by the architect what to build.

Speaking of management, Mr. Hudson said, those who are responsible for designing buildings should give the poor contractor time to work out his programme and time to organize on paper before he goes on to the site. He was quite certain that if the building firm was given a reasonable period to get the orders placed, to see where he could get hold of difficult materials, and get a programme drawn up in a proper fashion, the building would be finished more quickly.

On mechanization Mr. Hudson commented: It is said that builders are allergic to machinery. He wanted to say that from the builders and operatives point of view it was completely untrue, although it was perfectly true that they were not

anxious to have a machine for the sake of having one. Experience over the years had shown that if a machine does the job quicker than it was done by hand there was no difficulty in getting builders to use it, e.g., concrete mixer.

Mr. Hudson's personal answer to the challenge is first materials, second team work and third hard work.

Mr. Kenneth Campbell, A.R.I.B.A., who opened the discussion, saw the Building Industry as a collection of firms and looked at in this light it had, he said, three traits which distinguished it from other industries. These traits were slowness, cost and inefficiency in terms of the small return achieved for the labour put in.

The main reason for slowness, Mr. Campbell thought, was the number of techniques available to-day. There was, he said, no organization to correlate these techniques, with the result that the architect, whose job it was not, was often called in to organize the job. The multitude of precision techniques were at present only geared together in the architect's mind.

Mr. Campbell said that a simple answer and one which he had been considering was to P.C. the whole job. Some architects (not specified) had, said Mr. Campbell, been considering whether architects should not organize the whole job, in which case contractors might perhaps become an anachronism. Concluding his speech, Mr. Campbell asked whether the Building Industry could produce the organization capable of seeing the job as a whole. If the Building Industry could not do so, said Mr. Campbell, "you will go where the coalminers have gone."

The Chairman, who spoke first, warned that he had no intention of being—as a chairman should be—impartial. Nevertheless, his presence and his remarks maintained a balance. His speech and summing-up were sound common-sense.

Building and Civil Engineering, said Sir Hugh, are not divisible. They are the construction industry. The problems are "how to secure production in full employment and how to secure efficiency in a planned economy."

The challenge, Sir Hugh said, is to make the industry more efficient than it was pre-war. (At present it is 25 per cent below pre-war efficiency.) The answer lies with management. Operatives, employers and architects, said Sir Hugh, must realize that craftsmanship in its old form (*sic*) must be forgotten in favour of mechanical efficiency. Build to an adequate standard was the Chairman's advice, and he added: "To be more than adequate is to be extravagant."

In his summing up the chairman looked forward to the time when the architect and contractor could get together at the earliest possible stage in design. This would enable the client to be given a firm estimate—with the proviso that any changes on his part would cost money. It would, too, enable the client to be given a firm completion date—a further factor in saving money, since time is money.

ACCOUNTING & COST-CONTROL—I

Modern Methods of Management in the Building Industry

By S. Howard Withey, F.Comm.A.

Various methods of estimating the cost of jobs, operations and contracts are adopted by builders, the procedure varying according to the type of work, and upon taking measurements and making calculations it is often found that the resultant figures are very different from the original estimates. In connection with new or unfamiliar processes or types of job a certain amount of guesswork usually has to be made. But to ensure an adequate margin of profit and keep irregularities within the narrowest limits it is advisable to maintain a suitable system of accounting and costing and in these articles the author emphasizes some of the fundamentals of cost-control and shows how the application of modern methods enables builders to exercise an effective internal check over the various operations.

Prime cost may be calculated on the basis of dimensions, and as a rule it is advisable to measure all sections of the work in square yards to enable the total area to be determined. Sufficient allowance should be made to cover wastage, spillage, carriage and other contingencies, and the prime cost of labour will usually be determined by reference to the accepted time unit applicable in the trade in the district. To the prime cost of materials and labour should be added an adequate sum to cover overhead charges, fixed expenses, supervision and the use of plant, etc., and to this total will be added the amount of profit to be realized on the completed job, operation or contract.

Types of buildings differ widely, as also do the quantities and the quality of the materials used, and the materials cost of one job may be many times greater proportionately than in the case of another similar job. The giving out of orders for the supply of materials and the compilation of the materials schedules are matters calling for constant attention, and it should be made perfectly clear to suppliers and purchasing agents that any deviation from particulars supplied will be entirely at their own risk. In some instances, of course, variations from specification will be specifically authorized, and by using a duplicate book containing thin tissue leaves the foreman in charge of the stores is able to refer to the details on any order form at any time. It may be advisable to specify the prices of materials ordered, or the latest date for delivery at the site, and when dealing with a buying agent for the first time the terms of payment and conditions of business should be clearly stated or confirmed.

The wide divergence in estimates for building work is due to different methods of carrying through similar jobs. Sometimes cost is a factor of small importance so long as the desired result is obtained. But, generally speaking, contracts have to be completed in strict accordance with accepted principles involving accurate measuring up and reliable costing, and specifications relating to work to be carried through under the supervision of an architect are usually drawn up in the architect's office. References made to special materials should be carefully noted, as it is necessary that the architect's instructions be faithfully carried out; on the other hand, the architect's attention should be directed to any details which may have been omitted or to any section of the job demanding more preparation than has been allowed for in the specification.

To facilitate the allocation of the materials cost the requisitions supporting the issues from stock should be sorted under such headings as bricks, stone, slates, tiles, terra-cotta, metal, timber, paints, etc. Many builders are equipped with separate stores for materials of a bulky nature, the use of which is confined

to a particular class of operation, and such stores are usually placed in the charge of a foreman who has the keys in his possession and is made responsible for maintaining accurate records of everything received and issued. Dockets printed in sets of four are used extensively, each form being of distinct colour, one being used in the yard, another in the workshop, one in the stores and the other retained for office use. Such dockets should be numbered in strict rotation and all forms of the same set should bear identical numbers.

To enable proper accounts to be compiled at headquarters, advices should be sent in from each site at frequent intervals giving details of all goods, articles, materials and stores which have arrived, also particulars of the loads carried away from the site and the unloaded crates and cases, with the name of the store or other location. Materials are usually obtained by requisitioning on special forms, all delays, breakages and shortages being investigated and the cases examined in the carman's presence before the delivery note is signed. If the foreman is not present when packing cases are opened the delivery note or book should be signed for as "not examined."

Unless the foreman is confident that materials and equipment will be forthcoming when required he may feel handicapped in his efforts to increase output and efficiency. Operatives work better when they can see a plentiful supply of materials on the site, and stocks should never be allowed to dwindle below that minimum which experience has proved advisable to carry. Directly the quantity, weight or number under any heading threatens to reach the pre-determined minimum it is a good practice to make a note in a book ruled as shown in the table at the foot of the page.

Directly materials arrive on the site, particulars should be entered in an inwards book, the details being obtained

from the advice notes, and before being allotted the materials should be carefully inspected and compared with the copy of the order which has been retained. The necessary entry can then be made in the Stock Received Book which is usually provided with separate columns or sections for inserting the date of receipt, the number of the original order, the price or invoiced cost and any special observations or remarks. Issues made to the job should be recorded in a separate book giving the date of issue, the requisition number, name of the charge hand, and the price or rate, and when any material is found to be defective or unacceptable and is returned, an entry may be made in the book used primarily for recording empty crates and cases, etc., returned to suppliers.

By means of cards kept in a cabinet or drawer, or loose sheets bound in a book file, the stock of materials can be grouped under appropriate headings. Each card or sheet should show the date received, the quantity, weight or number delivered on the site, the dates of the various issues and the quantities actually issued to the different jobs, and by arranging the records in convenient sequence and compiling separate accounts the quantities of material on hand can be readily ascertained.

The storekeepers should be provided with stock cards which can be attached to boxes, shelves and drawers, etc., and as the foreman must be able to produce data enabling the value of the stocks and work in progress to be determined a standardized procedure should be adopted to avoid duplication and inefficiency. In many instances, orders merely indicate the quantities which the site office is authorized to requisition, and the total quantity must not be exceeded, and while the costs can be controlled if the quantities ordered by the central buying department are exactly those on which the original estimate was based, under the conditions prevailing at the present time it is difficult to avoid differences between the prices actually paid for materials and the prices estimated. Even when the estimated quantities prove to be correct, sufficient material may not be delivered to the site to enable the work to be completed, and in such cases the site foreman should send to the central buying department a materials shortage requisition stating the reason why the estimated quantities have had to be exceeded. These documents furnish the real reasons for higher costs and enable managements to ascertain the cause or causes of profit fluctuations on jobs of a very similar nature.

(To be continued)

Left-hand BUILDING MATERIALS ORDER BOOK

Date	Description of Materials Required	Section, Site or Department	Quantity, Weight or Number Needed	Order Authorised by	Remarks

Right-hand

Date of Order	No.	Particulars of Materials Ordered	Date Rec'd	Condition upon Arrival	Quantity, Weight or Number Taken into Stock	Remarks

SEWAGE DISPOSAL FROM NEW PREMISES

Sewage disposal works are expensive plants to construct, and take a considerable time to erect, but with the need to restrict capital expenditure many authorities are faced with a very serious situation. Drainage systems are being connected to sewers, and disposal works are already working at maximum capacity. It requires little imagination to foresee the consequences of such a state of affairs and one shudders with apprehension at the possibilities that even a single retrograde step might lead us to. This was the view expressed by Dr. E. Carr, Ph.D., B.Sc., M.R.San.I., A.M.I.Mech.E., in a recent speech on sanitary progress over the last 100 years.

The problem now exercising the minds of the sanitary engineer and local authorities up and down the country, said Mr. Carr, was how to dispose of sewage from the many new premises to be dealt with. In thinking over this question it appeared to the speaker that some form of unit capable of dealing with, one might almost say individual needs, was required. In other words, foul drains, sewers and disposal plant all rolled into one. The answer to these primary requirements was obviously some type of chemical closet, but from past experience of such appliances it seemed that on aesthetic grounds alone they would have to be ruled out, to say nothing of the practical performance which experience has shown to vary from poor to only very fair. It was with this idea still in mind that Dr. Carr decided to carry out a series of tests on the Destrol chemical closet. The de luxe model of this particular appliance at least overcame the aesthetic considerations and so, with an open mind, tests, both laboratory and field, were started. The Destrol closet is a self-contained unit not requiring ventilation, and by progressive precipitation reduces the sewage to an odourless and harmless liquid. This is brought about by the addition of the Destrine chemical compound to the container; whilst it is a highly efficient antiseptic it is non-corrosive, and when mixed with the contents of the closet causes rapid disintegration. At the same time bacterial activity ceases almost instantly. Disintegration is a continuous process and is accelerated every time the closet is used. After a period of time, varying with usage, the contents, consisting of liquid with a small amount of sediment, are drained away to a small soak-away simply by pulling a small knob. Incidentally, the sediment is of some value as a manure as it is capable of supplying humus to soil.

The de luxe model when installed looks and behaves like a normal "low down" water closet. The sterilized liquid in the settling tank being pumped automatically back to the flushing tank through a closed circuit. The amount of water required to operate these units is approximately 5 per cent of the quantity used in normal water-flushed closets. This obviously represents a very great saving and thus can be used in any area almost without regard to the availability of water supplies.

The necessary bacteriological and public health standards were defined as follows for the purposes of the tests:—

- (1) The concentration of antiseptic should be maintained at a level which would sterilize the contents.
- (2) That action should be reasonably rapid so that any overflow contaminated by the last added material

should already have been rendered harmless. This time was further defined as 3 minutes.

- (3) That the action should not be interfered with by sewage, i.e., the inhibitory level should be as high in urine as in broth.

The first laboratory test was carried out using Destrine chemical and disclosed:—

- (1) That the effective concentration for overnight sterilization of a culture in broth was 1/50.
- (2) That sterilization of a heavy implant did not take place within 5 minutes unless the concentration reached 1/30.

These preliminary investigations, though giving good results, did not satisfy the requirements as defined earlier. They did, however, show that *Salmonella typhi* (B. Typhosus) in its virulent state was inhibited at exactly the same level as strains of coliforms used in parallel. It was, therefore, safe to substitute these non-pathogenic organisms for virulent typhoid bacilli in the field experiments.

As a result of this test it was suggested to Mr. Cochran, to whose formula the Destrine compound was made up, that a modification of the chemical composition would prove beneficial. He responded and gave every assistance, and so a second laboratory test was undertaken using the new chemical compound. The results more than justified our expectations, as you can judge from the following:—

- (1) Titrations in broth gave overnight killing of a heavy implant at a concentration of 1/240, with marked inhibition at 1/320.
- (2) Substituting urine for broth gave killing at 1/320 and almost complete sterilization up to 1/480.

This was better than the level required since the effective concentration was 1/120.

The requirement that killing should be rapid was carried out at several levels and it was found that at the critical level, 1/120, killing was effected in considerably less than 3 minutes with normal implants.

With very heavy implants killing was observed when the concentration was

raised to 1/70, when, indeed, all organisms were killed.

The third experiment was a field test:—

- (1) A de luxe model was installed and used at a London factory according to the makers' instructions for ten days. At the end of this period samples were taken from the cistern and from the pan, and were free of any intestinal organism as judged by growth in McConkey's broth.
- (2) Into the pan was now poured the combined cultures from eight intestinal organisms, in all 20 m.l. containing 4 x 10 in (four hundred thousand million) organisms. The antiseptic was allowed to act for 3 minutes and the closet flushed. The overflow was collected and 1 m.l. volumes examined. Only one strain was recovered from the overflow and this was not present in sufficient numbers to be detected after 24 hours' incubation and only showed its original characteristics after 48 hours.

To ensure the accuracy of assessment of the tests the co-operation of a very famous London Hospital Pathological Laboratory was sought and secured. In discussing the results afterwards the opinion of these impartial scientists confirmed my own thoughts, namely, that no other chemical closet has attained such a high standard.

To the foregoing results may be added the result of a stringent test made by a Government Pathological Research Unit, which stated that the effluent was "far superior to any normal sewage effluent and not far removed from the standard required for a potable water."

This, then, in my considered opinion, said Dr. Carr, is the answer to the problem confronting public authorities. At the same time, this appliance is also the ideal for all isolated installations. Also it must not be forgotten that there is no emptying of sludge, etc., as with septic tank systems. The Destrol chemical closet can be used in tropical or sub-tropical climates with an equal degree of safety.

M. O. W. LECTURES

OCTOBER 31

BIRMINGHAM at 7.15 p.m. "BUILDING (SAFETY, HEALTH AND WELFARE) REGULATIONS 1948," by A. N. Jones, H.M. Inspector of Factories, in the Mason Theatre, University, Edmund Street.

SOUTHAMPTON at 7 p.m. "ECONOMY IN TRADITIONAL HOUSE BUILDING," by N. S. F. Pippard, Building Research Station, Department of Scientific and Industrial Research, in the Conference Room, Civic Centre.

CARDIFF at 7 p.m. "FLOOR FINISHES," by F. C. Harper, Ph.D., B.Sc., Building Research Station, Department of Scientific and Industrial Research, at the University, Cathays Park (Lecture Room No. 129).

NOVEMBER 1

BOGNOR REGIS at 7.15 p.m. "THE BUILDING (SAFETY, HEALTH AND WELFARE) REGULATIONS, 1948," by E. W. Gurney, H.M. Inspector of Factories (Brighton District), at the Technical School, Southway (off Colliers' Avenue).

SHEFFIELD at 7.15 p.m. "SOME FAILURES IN STRUCTURAL ENGINEERING," by S. Mackey, M.E., B.Sc., A.M.I.C.E., A.M.I., Struct.E., University of Leeds. In the Main Hall, College of Technology, Department of Building, Salmon Pastures, Warren Street.

NOVEMBER 4

HEREFORD at 7.15 p.m. "THE BUILDING (SAFETY, HEALTH & WELFARE) REGULATIONS, 1948" by I. S. Haggard, H.M. Inspector of Factories, at Hereford College of Further Education, Newtown Road.

KINGSTON-UPON-HULL at 7.15 p.m. "COMMON DEFECTS IN BUILDING" by H. J. Eldridge, B.Sc., of the Building Research Station, Department of Scientific and Industrial Research. In the Reception Room, Guildhall.

LIVERPOOL at 7.15 p.m. "LIGHTWEIGHT CONCRETES" by T. Whitaker, M.Sc., A.M.I.C.E., A.M.I.Mun.E., of the Building Research Station, Department of Scientific and Industrial Research. In the Lecture Hall, City Technical College.

OFFICE BOOKSHELF

Concrete

Once again a new edition, the fourth, of the well-known book "Reinforced Concrete Simply Explained," by Dr. Oscar Faber (Oxford University Press, price 8s 6d), has appeared. This always has been an admirable simple introduction to the subject, and the same simplicity is continued in the new edition with its extended scope. In fact, at least part of the work of revision is devoted to further aiding the user to understand the subject. The whole of the contents have been reviewed generally to bring them into line with the British Standard Code of Practice for Normal Reinforced Concrete in Buildings, CP.114, the drafting committee for which had the author as chairman.

Many subjects not mentioned in earlier editions are now covered, including: curves and formulae connecting neutral axis, ratio of stresses, percentage of steel, radius arm, resistance movements with various stresses in concrete and reinforcement; curves for combined compression and bending; treatment of movements in columns due to bending in monolithic beams; effect on such movements of reduced movement of inertia of columns when tension occurs; adhesion, grip and bond. New chapters give simple introductions to pre-stressed concrete, shell concrete and water-retaining structures.

The author has never intended this book for the specialist engineer but for those, such as architectural and building students, who need a really simple guide to an understanding of the basic principles of the subject; for this type of student the book is a clear enunciation of essential and fundamental information and is very nicely presented at a low price.

Painting

In presenting "Good Painting of Buildings," the Paint Division of Imperial Chemical Industries, Ltd., points out that, excluding the work of amateurs, at least £80,000,000 is spent each year on painting of buildings in Britain and of this sum only about 25 per cent is the cost of paint and the remainder is the cost of preparing and applying the paint.

The purpose of the 52-page booklet is to encourage "the education and training of the painter of to-morrow," and it can only be hoped that it will have an equally beneficial effect on some of those we have with us to-day. It is full of sound guidance which is simply presented in a very readable way and illustrated by very clear photographs.

The booklet opens with a good straightforward explanation of what paint is, its various classes and their properties, but no information is given in regard to where they should be used as it is pointed out that there are no general rules and the manufacturer's advice should be sought in order that all the factors involved in each case may be taken into account.

Many pages are devoted to the subject of types of surface to be painted and much helpful information is given. It is interesting to read the comments on primers for wood "of doubtful formulation or quality are often considered satisfactory because they are pink and cheap." It is also of interest to note references to aluminium primers being favoured for resinous timbers such as Columbian pine. The proper preparation of all surfaces is well stressed.

Nearly half the booklet and all the excellent photographs are devoted to

common painting defects, what they are and how to avoid them. This is extremely sound and helpful information which all who paint need to know.

The final section on regulations and precautions to be taken when using certain types of paint should be read, and observed, by all as they seem to be forgotten rather too often.

Copies of this excellent publication are available to all professional painters from any I.C.I. Sales Office or from the Paints Division of I.C.I. at Slough, Bucks.

Brickwork

"Bricklaying Skill and Practice," by Dalzell-Townsend (American Technical Society, Chicago, available from the Technical Press, Ltd., Kingston Hill, Surrey, price 24s) is an excellent attempt to train bricklayers by the printed word implemented with many clear photographs and drawings. It is probably one of the best books so far written on the subject as so few try to explain in such detail exactly what a bricklayer has to do. It is doubtful that anyone can expect to learn a manual craft from a book, but a study of this book should help greatly those who are obtaining practical training. Being an American publication some of the techniques and dimensions used are somewhat different from those current in this country, but basically the information given is equally applicable here and should be fully understood by anyone with average intelligence. In fact the standard of general construction illustrated is rather higher than is normal in this country especially in relation to fire-place construction. It should be very useful to both those who teach and those who learn the bricklayer's trade.

Plastics

The subject of plastics is of great and increasing interest to building and so far little has been published in book form directly for use in this field. "Plastics and Building," by MacTaggart and

Chambers (Pitman, London, price £3) is, in the words of the authors, an attempt to strike a mean between highly technical treatises and "popular" works to give an overall picture of the properties, production and uses of plastic materials to enable the architect, builder or industrial designer to assess the value and make logical and proper application of plastics.

The title is misleading for while industrial designers may feel disposed to wade through this book it seems to be too long, too complicated and much too expensive a treatise for the architect or builder whose time to read is very limited and whose understanding of chemistry is often small. If the authors had sought the collaboration of one accustomed to giving information to the building field the material might have been presented in a shorter and more palatable form with many of the bits of industrial history and the platitudes omitted and at a much reduced cost. The paragraphs on toys and sports goods, general engineering and on motor cars and aeroplanes are out of place in a book which has building as the important half of its title.

Foundations

Not many books have so far been issued on this subject in relation to small buildings, presumably because, for reasons unknown, it has seldom seemed necessary to authors to devote a whole volume to this aspect of small buildings alone. "Foundations for Houses and Other Small Structures," by W. H. Elgar (The Architectural Press, London, 12s 6d) is a very simple and understandable exposition of the subject which is one which has not had nearly sufficient attention paid to it by architects and builders often, unfortunately, to the ultimate chagrin and expense of their clients.

The book does not attempt to put forward any novel claims nor methods of achieving success with certainty, but discusses the problem generally and the ways of meeting the need to provide adequate foundations at reasonable cost. The book gives little information not already available in the B.S. Code of Practice CP.101 for foundations, substructures for houses, flats and schools, and possibly in a less easily understood form from the point of view of quick practical application, but the subject is covered in much greater detail from the theoretical aspect.

Quantity Surveying

Many books have been written on this subject and it is very questionable whether there is much need for more on the more simple procedures as are necessary for junior students as these have changed little over the last decade. Certainly it is even more doubtful that "Building Quantities," by J. H. Anderson (Edward Arnold & Co., London, 10s 6d) really adds much of great value. The drawings which are the basis of the "taking-off" would be a disgrace to any decent architect's drawing office and being normal pages in the text are almost impossible to examine in conjunction with the text without constant and annoying turning of the pages backwards and forwards. The information or teaching matter of the book is satisfactory and follows the Standard Method of Measurement adopted in England; the information is based on a simple series of fully worked out examples with some notes on the Standard Method which appear to be no more fully detailed than in the Institution's official publication.

BUILDING
EXHIBITION

Special issues of the Architect and Building News covering the Building Exhibition, which opens at Olympia on November 14, will be published as follows:—

NOV. 8 GUIDE

This issue will contain advance information, on the many new products to be shown, with clear indication as to where they can be found. A comprehensive pictorial preview of stand designs will also be included.

NOV. 15 REPORT

Detailed descriptions and illustrations of exhibits of interest will be included in this issue which will be available from the Architect and Building News Stand—G 142, on and after November 17.

NOV. 23 REVIEW

A special article on the woodworking machinery at the exhibition will be a feature of this issue.

Notes below give basic data of contracts open under locality and authority which are in bold type. References indicate: (a) type of work, (b) address for application. Where no town is stated in the

CONTRACT • NEWS •

OPEN

BUILDING

ALDERSHOT B.C. (a) 1 block of 3 dwellings on the Old Folks' Housing Site, Pool Road. (b) Borough Engineer, Municipal Buildings, Grosvenor Road. (c) 1 Gn. (e) Nov. 12.

BARNSTAPLE B.C. (a) 8 houses and 12 houses, Forches Estate. (b) Borough Surveyor, The Castle. (c) 2 Gns. (e) Nov. 5.

BEDFORD B.C. (a) 4 public conveniences, etc. (b) Borough Engineer, Newnham House, Horne Lane. (c) 1 Gn. (e) Nov. 7.

BERKSHIRE C.C. (a) Adaptation, for use as children's home, of Monksbarn, Cressingham Road, Reading. (b) County Architect, Wilton House, Parkside Road, Reading. (c) 2 Gns. (e) Nov. 7.

BOURNEMOUTH B.C. (a) Contract L.A.62 31 pairs of houses, and Contract L.A.12, 6 pairs of bungalows, Leybourne Estate. (b) Borough Architect's Office (Room 101), Town Hall. (c) 2 Gns. (e) Nov. 13.

BUSHEY U.C. (a) 20 houses, Coldharbour Estate. (b) Engineer and Surveyor, Council Offices, Rudolph Road. (c) 3 Gns. (e) Nov. 12.

CARDIGANSHIRE E.C. (a) Further Education Project—Ardwyn Secondary School, Aberystwyth. (b) County Architect, County Offices, Aberayron. (d) Oct. 27.

CARLISLE C.C. (a) Central kitchen at Adelaide Street. (b) City Engineer, 18, Fisher Street. (c) 2 Gns. (e) Nov. 9.

CHATHAM B.C. (a) 15 aged persons' bungalows on the Wayfield Estate and 15 on the Chickfield Estate. (b) Borough Engineer, Town Hall. (c) 2 Gns. (e) Nov. 6.

DURHAM COUNTY POLICE AUTHORITY. (a) 2 pairs of Police houses at Carville Terrace, Willington. (b) Police Authority's Architect, Court Lane. (e) Nov. 5.

EAST GRINSTEAD U.C. (a) (1) pair of bungalows. 1 block of 4 flats. 2 pairs of houses, and (2) 4 blocks of 4 flats, 6 pairs of houses and 3 blocks of 4 houses on the Blackwell Farm Estate. (b) Council's Surveyor, East Court. (c) 5 Gns. (e) Nov. 5.

FARNBOROUGH U.C. (a) 4 shops with 4 flats above, Minley Road Estate. (b) Council's Engineer, Town Hall. (c) 3 Gns. (e) Nov. 7.

FLINTSHIRE C.C. (a) Demolition, additions and improvements at Rhyl Police Station. (b) County Architect, Llwynegryn, Mold. (c) 3 Gns. (e) Nov. 6.

HAMPSHIRE C.C. (a) Secondary school at Basingstoke. (b) County Architect, The Castle, Winchester. (c) 3 Gns. payable to County Treasurer. (d) Nov. 13. (e) Dec. 11.

address it is the same as the locality given in the heading, (c) deposit, (d) last date for application, (e) last date and time for submission of tenders. Full details of contracts marked ★ are given in the advertisement section.

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HARROW U.C. (a) (1) 37 houses, Castle-ton Road, Harrow. (2) 8 houses and 2 shops at Whittington Way, Pinner. (3) 6 old peoples' dwellings, College Hill Road, Harrow Weald. (b) Engineer and Surveyor, Council Offices, Stanmore. (c) £2 each contract. (e) Nov. 16.

ISLE OF ELY C.C. (a) 1 pair of Police houses, Burrowmoor Road, March, and 1 Police house in Station Drive, Wisbech. (b) County Architect, County Hall, March. (c) 2gns. (d) Oct. 27. (e) Nov. 30.

LANGPORT R.C. (a) 10 houses, Chatham Place, Curry Rivel. (b) N. H. N. Darby, Westminster Bank Chambers, Fore Street, Taunton. (c) 2gns. (e) Nov. 27.

LONDON—CHINGFORD B.C. (a) Surgery building and garage attached to 21, Boardman Avenue, Chingford. (b) Borough Engineer, "Holmleigh," Ridgeway Road, E.4. (c) 1gn. (e) Nov. 9.

MANCHESTER C.C. (a) Erection and completion of central store at "Newholme," Nell Lane, West Didsbury. (b) City Architect's Office, Town Hall. (c) 1gn. (e) Nov. 16.

MILFORD HAVEN U.C. (a) Scheme No. 2 34 houses, St. Lawrence Hall Estate. (b) Engineer and Surveyor, Town Hall. (c) 2gns. (e) Nov. 8.

MITCHAM B.C. (a) 117 flats in blocks of 4, 5 and 6 storeys and 10 aged persons' dwellings, Glebe Estate (Section II). (b) Borough Engineer, Town Hall. (d) Oct. 31. (e) Nov. 30.

NEWCASTLE REGIONAL HOSPITAL BOARD. (a) Conversion and extension of public assistance block at Newcastle General Hospital to form psychiatric unit. (b) Secretary, "Dunira," Osborne Road, Newcastle-upon-Tyne. 2. (d) Nov. 1.

NEWCASTLE REGIONAL HOSPITAL BOARD. (a) 2 villas for mentally deficient patients at Dovenby Hall Hospital. (b) Messrs. J. M. Sheppard and Partners, 38, Bedford Place, Bloomsbury Square, London, W.C.1. (d) Nov. 5.

PADIHAM U.C. (a) 100 houses. (b) Council's Clerk, Town Hall. (c) 2gns. (d) Nov. 6.

PLOUGHLEY U.C. (a) 3 pairs of houses at Souldern. (b) Mr. F. E. Openshaw, 65, St. Giles Street, Oxford. (c) £2. (e) Nov. 9.

PRESTWICH B.C. (a) 72 houses, Carr Clough Estate. (b) Borough Engineer, Town Hall. (c) 5gns. (e) Nov. 5.

REDDITCH U.C. (a) 14 lock-up garages, Batchley Estate, also driveway and forecourt. (b) Engineer and Surveyor, Council House. (c) £2. (e) Nov. 12.

SCOTLAND—EDINBURGH C.C. (a) Alterations at Lady Yester's Church (all trades). (b) City Architect's Office, City Chambers. (e) Nov. 5.

SCOTLAND—MIDLOTHIAN C.C. (a) Block of 4 shops with 2 flats above at (1) Wallyford, (2) Gorebridge and (3) West Calder (Polbeth). (Separate trades). (b) County Architect, 32, Palmerston Place, Edinburgh, 2.

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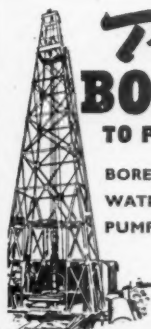
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SCOTLAND—SUTHERLAND C.C. (a) 2 houses and 2 houses at Bonar Bridge, 2 houses and 4 houses at Brora, 6 houses at Golspie, 6 houses at Brora (Fascally), 4 houses at Helmsdale, 10 houses at Kinlochbervie, 4 houses at Lairg, 2 houses at Lochinver and 2 houses at Rhiconich. (All or separate trades). (b) E. W. Brannen, Carnegie Buildings, Dornoch. (c) 1gn. (e) Nov. 7.

SEAHAM U.C. (a) 8 shops and flats, garages and siteworks, Parkside Estate. (b) Engineer and Surveyor, Cliff House. (c) 3gns. (e) Nov. 3.

SHEFFIELD C.C. (a) Secondary school at Greenhill. (b) City Architect, City Architects' Department, Town Hall. (c) £3. (e) Nov. 2.

SOMERSET C.C. (a) Primary school, Lambrook Estate, Taunton. (b) County Architect, Park Street, Taunton. (d) Oct. 27, with details of financial resources and organization.

SOUTH SHIELDS B.C. (a) 4 shops and 12 flats in 1 block, Lizard Lane. (b) Borough Engineer, Town Hall. (c) 2gns. (e) Nov. 5.

STROUD U.C. (a) Contract No. 3, 20 houses. Contract No. 4, 10 houses. Contract No. 5, 4 bungalows. (b) Engineer and Surveyor, Council Chambers, High Street. (e) Nov. 16.

SOUTHWICK U.C. (a) 18 houses, Windmill site. (b) Engineer and Surveyor, Town Hall. (c) 3gns. (e) Nov. 5.

SWANSEA B.C. (a) Crematorium at Morriss. (b) Borough Architect, The Guildhall. (c) £3. (d) Nov. 1.

TETTENHALL U.C. (a) Alterations at the Old Windmill, Windmill Lane, Wightwick. (b) Engineer and Surveyor, Council Offices. (c) 1gn. (e) Nov. 10.

THETFORD B.C. (a) 2 houses and 2 shops with flats above, London Road site. (b) Messrs. J. Owen Bond and Son, St. Faith's House, Mountergate, Norwich. (c) 3gns. (e) Nov. 3.

WARE R.C. (a) 2 pairs of houses at Standon. (b) Messrs. W. R. Davidge and Partners, 5, Victoria Street, London, S.W.1. (c) 1gn. (e) Nov. 7.

WARRINGTON B.C. (a) 2 pairs of houses at Newton Hollow, near Frodsham, Cheshire. (b) Borough Surveyor's Office, Town Hall. (c) 2gns. (e) Nov. 3.

WEST RIDING C.C. (a) Additional accommodation at Mexborough Dolcliffe Road Modern School. (b) County Architect, "Bishopgarth," Westfield Road, Wakefield. (c) 1gn. (e) Nov. 5.

WEST RIDING STANDING JOINT COMMITTEE. (a) Extensions to Northampton Police Station. (b) County Architect, "Bishopgarth," Westfield Road, Wakefield. (c) Nov. 2.

WINCHESTER C.C. (a) 96 houses, Weeke Estate. (b) Messrs. A. S. Wilson and Partners, 8, Princes Street, Storey's Gate, London, S.W.1. (c) 2gns. (d) Nov. 1. Cheque payable to Winchester Corporation.

WREXHAM B.C. (a) Erection of approx. 300 dwellings and site works on Section 1 and 2 of the Queens Park Estate. (b) Borough Engineer, 31, Chester Street.

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CHESTERFIELD B.C. (1) 100 houses. (2) Newbold Estate. (3) A. F. White, 198, Derby Road, Chesterfield. (4) £142,000. (1) 165 Village houses. (3) The Butterley Co., Ltd., Ripley, Derbyshire. (4) £227,063.

LIVERPOOL. (1) New factory for Standard Motor Co. Ltd. (2) Kirkby Industrial Estate. (3) Garlicks, Ltd., 42, Far Crossford Street, Coventry. (4) £1,000,000.

WREXHAM. (1) Factory for British Celanese, Ltd. (2) Trading Estate. (3) Higgs and Hill, Ltd., South Lambeth Road, London, S.W.8. (4) Over £1,500,000.

WELWYN GARDEN CITY. (1) Research block for I.C.I. (Plastics Division), Ltd. (2) Black Fan Road. (3) Holland & Maanen and Cubitts, Ltd., 1, Queen Anne's Gate, London, S.W.1. (4) £203,000.

CHESTER CITY COUNCIL. (1) 106 houses. (2) Blacon Estate. (3) Thomas Warrington and Sons, Ltd., 84, Station Road, Ellesmere Port, Ches. (4) £126,812.

CHISLEHURST U.D.C. (1) 50 houses. (2) Edgbury Estate. (3) Carlton Contractors, Ltd., 15, Lingfield Crescent, London, S.E.9.

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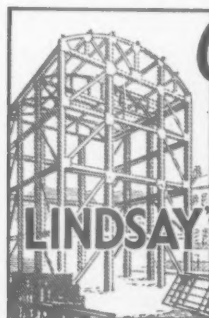
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Application forms to reach the College two complete calendar months prior to commencement of course.

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APPOINTMENTS

CITY OF BIRMINGHAM EDUCATION COMMITTEE.

APPOINTMENT OF STAFF TO ARCHITECT'S BRANCH.

APPLICATIONS are invited for the following appointments in the Architect's Branch of the Birmingham Education Department (Architect to the Committee: Mr. Alex. Steel, A.R.I.B.A.).

(i) ASSISTANT ARCHITECT.

Salary: A.P.T. VII (£685-£25-£760). The branch is engaged on a large building programme part of which consists of multi-storey school construction. Applicants will be responsible for the design, working drawings, supervision, as well as administrative work in connection with one or more such schemes. They must be Registered Architects or Chartered Architects.

(ii) ASSISTANT ARCHITECT.

Salary: A.P.T. V (£570-£620). Applicants must be Registered or Chartered Architects and should have had good general experience in the preparation of schemes and working drawings for educational buildings.

(iii) ARCHITECTURAL ASSISTANT.

Salary: A.P.T. IV (£530-£15-£545). Applicants should have passed the R.I.B.A. Intermediate Examination or its equivalent at one of the recognised Schools of Architecture and worked in an architectural office for a period of two years. They should be capable of preparing working details for major contracts.

(iv) ARCHITECTURAL ASSISTANT.

Salary: A.P.T. III (£500-£15-£545). Applicants should either: (i) have attended a full time course in Architecture, passed the R.I.B.A. Intermediate Examination or its equivalent and subsequently worked one year in an architectural office

or (ii) have served or be serving articles of pupillage or worked in an architectural office for three years and have passed the R.I.B.A. Intermediate Examination or its equivalent. They will be expected to prepare working drawing details under supervision.

Application forms, which may be obtained from the undersigned on receipt of a stamped, addressed envelope, must be returned not later than October 31st, 1951.

E. L. RUSSELL,
Chief Education Officer.

Education Office,
General Purposes Branch,
Margaret Street,
Birmingham, 3.

[5842]

APPLICATIONS are invited for the following posts in the Architect's Branch of the Northern (N. & C.) Divisional Coal Board:

SENIOR ARCHITECT (£850-£35-£1,150). Qualifications required: Associateship R.I.B.A.; recent experience in the design and supervision of large modern buildings. The successful applicant will act as Deputy to the Chief Architect and must have had experience in the administration and organisation of an office.

ARCHITECT GRADE I (£700-£25-£875). Qualifications required: Associateship R.I.B.A.; ability to design, organise and supervise modern building schemes, and to take charge of a section of the office.

ARCHITECT GRADE II (£450-£25-£700). Qualifications required: Final examination R.I.B.A.; good experience in preparation of sketch and working drawings for large schemes and arrangement of sub-contracts.

ARCHITECTURAL ASSISTANT GRADE I (£410-£20-£550). Qualifications required: Student R.I.B.A. with experience in preparation of working drawings under supervision.

Starting salaries according to qualifications and experience.

These posts offer excellent opportunities in a new office to keen and capable Architects.

Applications, stating age, training, experience, present appointment and salary, clearly indicating for which post application is made, should be submitted not later than 5th November, 1951, to:—

The Establishment Officer,
National Coal Board,
Northern (N. & C.) Division,
Ellison Building,
Ellison Place,
Newcastle upon Tyne.

[5855]

APPOINTMENTS—contd.

CORPORATION OF LONDON.

APPOINTMENT OF ARCHITECTURAL ASSISTANT—AUXILIARY STAFF.

APPLICATIONS are invited for the appointment of an ASSISTANT within the range of Higher Grade I, £400-£25 to £625, commencing salary to be subject to age, experience and qualifications. The first £400 of the salary is subject to 15 per cent and the remainder to 7½ per cent cost-of-living bonus.

Applicants should have had good office experience and have passed or be preparing for Intermediate R.I.B.A. or R.I.C.S. Examination.

The appointed officer will require to pass a medical examination and to contribute to the Corporation's Superannuation Fund as maintained under the City of London (Various Powers) Acts, 1931 and 1950.

Applications, giving full personal details, particulars of qualifications, experience, age, past and present appointments and the names of two persons to whom reference may be made, should be sent to the City Surveyor, Corporation of London, 55/61, Moorgate, London, E.C.2, not later than the 31st October, 1951.

[5857]

MINISTRY OF WORKS.

THERE are vacancies in the Chief Architect's Division for ARCHITECTURAL ASSISTANTS and LEADING ARCHITECTURAL ASSISTANTS with recognised training and fair experience. Successful candidates will be employed in London and elsewhere on a wide variety of Public Buildings, including Atomic Energy and other Research Establishments.

Salary: Architectural Assistants £340-£575 per annum. Leading Architectural Assistants £370-£675 per annum. Starting pay will be assessed according to age, qualifications and experience. These rates are for London; a small deduction is made in the Provinces.

Although these are not established posts, some of them have long term possibilities and competitions are held periodically to fill established vacancies.

Apply in writing, stating age, nationality, full details of experience, and locality preferred, to Chief Architect, Ministry of Works, Abell House, John Lipp Street, London, S.W.1, quoting reference WG10/BS.

[5763]

COUNTY COUNCIL OF THE COUNTY OF LANARK.

COUNTY ARCHITECT—PROPERTY DEPARTMENT.

APPLICATIONS are invited for the appointment of a CHIEF ARCHITECTURAL ASSISTANT on the salary scale £760/£860. Candidates must be Registered Architects and should be fully qualified; they should have attained a high standard in architectural design and construction in addition to having had a wide experience in architectural practice and in the administration and supervision of technical staff and work normally carried out by a Local Authority.

In addition, a number of vacancies still remain to be filled in Grades ranging from A.P.T. Grade VII to A.P.T. Grade I and suitable applications for these categories are also invited.

In their applications candidates should state their qualifications and years of experience and, at the same time, make it clear the appointment or grade for which application is being made.

The appointments will be subject to the provisions of the Local Government Superannuation (Scotland) Act, 1937, and successful candidates will require to pass a medical examination. Canvassing directly or indirectly will be a disqualification.

Applications stating age, past and present appointments and accompanied by the names and addresses of three referees, should be sent to Mr. W. R. Watt, County Architect, 34, Albert Street, Motherwell, Lanarkshire, not later than three weeks from the date of the appearance of this advert.

WM. C. BROWNIE,
County Clerk.

191, Ingram Street,
Glasgow.

[5869]

APPOINTMENTS—contd.

BOROUGH OF WORTHING.

BOROUGH ENGINEER'S DEPARTMENT—ARCHITECTURAL ASSISTANT.

APPLICATIONS are invited for the above appointment at a salary in accordance with A.P.T.III of the National Joint Council's Scale of Salaries, i.e., £500-£545 per annum.

Applicants should have had experience in the preparation of working drawings and preference will be given to applicants who have at least the Intermediate Examination of the R.I.B.A.

The appointment will be subject to the National Scheme of Conditions of Service of Local Government Officers; to the provisions of the Local Government Superannuation Act, 1937; and to the successful candidate passing satisfactorily a medical examination. The appointment shall be determinable by one month's notice on either side.

Applications endorsed "Architectural Assistant," stating age, qualifications and experience, and accompanied by copies of three recent testimonials, should be delivered to the Borough Engineer, Town Hall, Worthing, not later than the 8th November, 1951.

ERNEST G. TOWNSEND,
Town Clerk.

Town Hall,
WORTHING.

18th October, 1951.

[5870]

STATES OF GUERNSEY

APPOINTMENT OF ARCHITECTURAL ASSISTANTS

APPLICATIONS are invited for the following Architectural appointments in the Public Works Department. These appointments are permanent and pensionable and the salaries will be increased by a cost of living bonus, at present £80 per annum for a married man, or £40 per annum for a single man. All Civil Service salaries in Guernsey are now in course of review:—

(1) SENIOR ARCHITECTURAL ASSISTANT. Salary £620 per annum rising by annual increments of £15 to £670, plus cost of living bonus.

The successful applicant will be expected to provide a car, for which he will receive a travelling allowance in accordance with the present States of Guernsey scale of allowances.

(2) GENERAL ARCHITECTURAL ASSISTANT. Salary £480 per annum rising by annual increments of £15 to £525 per annum, plus cost of living bonus.

Applicants must be Registered Architects and preferably Corporate Members of the Royal Institute of British Architects, and must have a thorough knowledge of architectural works, with practical experience in design and development of schools and public buildings of all types, including the preparation of working drawings and specifications.

Suitable housing accommodation will be made available where necessary, and existing superannuation rights may, with the approval of the Appointing Authority, be transferred to the States of Guernsey Non-Contributory Pension Scheme.

Candidates must not be over 45 years of age and the successful applicants will be required to pass a medical examination.

Appointments will be terminable by one month's notice on either side.

Applicants should state, in the following order:—

- The specific appointment applied for.
- Name and address.
- Age.
- Education of training.
- Professional qualifications.
- Present position, salary and date of appointment.
- Previous positions with salaries and dates of appointments.
- Details of particulars of experience.
- Any further remarks in support of application.
- Notice required to terminate present appointment.

Applications, appropriately endorsed according to the position applied for, together with two recent testimonials, should reach the States Superintendent, States Office, Guernsey, Channel Islands, not later than Monday, 12th November, 1951. Canvassing in any form will disqualify.

[5863]

APPOINTMENTS—contd.**COUNTY BOROUGH OF EAST HAM****BOROUGH ENGINEER'S DEPARTMENT**

APPLICATIONS are invited for the undermentioned appointments on the permanent staff:—
SENIOR ARCHITECTURAL ASSISTANT (Grade A.P.T. VI) (Three vacancies). Salary £645 to £710 per annum.
ARCHITECTURAL ASSISTANT (Grade A.P.T. IV). Salary £530 to £575 per annum.
ARCHITECTURAL ASSISTANT (Grade A.P.T. III). Salary £500 to £545 per annum.
ENGINEERING ASSISTANT (Grade A.P.T. V) (Three vacancies). Salary £570 to £620 per annum.

The appropriate London Weighting (£10 per annum to £30 per annum according to age) is paid in addition to the above salaries, and salaries in excess of the minima of the grades may be paid according to the qualifications and experience of successful candidates.

The Council will be prepared to consider applications for a subsistence allowance in appropriate cases from persons appointed should they be unable to obtain suitable housing accommodation.

Full particulars of the terms and conditions of appointment and form of application (which must be returned by Monday, the 12th November, 1951) may be obtained from the undersigned. Candidates must state for which post they are applying.

Canvassing in any form will disqualify.

H. A. EDWARDS,

Town Clerk.

Town Hall,
 East Ham,
 E.6.

[5865]

BERKSHIRE COUNTY COUNCIL

APPLICATIONS are invited for the following appointments in the County Architect's Department:—

(a) ASSISTANT QUANTITY SURVEYOR. Salary Grade VIII £735-£810.

(b) ASSISTANT QUANTITY SURVEYOR. Salary Grade IV £530-£575.

(c) ASSISTANT QUANTITY SURVEYOR OR TECHNICAL ASSISTANT. Salary Grade I £440-£485.

Candidates for (a) should have passed the Final Examination and for (b) the Intermediate Examination of the Royal Institution of Chartered Surveyors in the Quantities Sub-Division.

Candidates for (a) should have had considerable experience in taking-off in accordance with the Standard Method of Measurement for large building projects.

Candidates for (b) should be capable of taking-off sections of major building works, working-up and the settlement of final accounts.

Candidates for (c) should preferably have had experience in a Building Contractors' Office and should be capable of measuring and valuation of work in progress.

Application forms and further particulars can be obtained from the County Architect, Wilton House, Parkside Road, Reading, to whom they should be returned completed by noon on Thursday, the 1st of November, 1951.

E. R. DAVIES,

Clerk of the Council.

Shire Hall,
 Reading,
 October, 1951.

[5862]

LONDON COUNTY COUNCIL.**ARCHITECT'S DEPARTMENT.**

APPLICATIONS are invited for positions of
ARCHITECT, Grade III (£550-£700) and
TECHNICAL ASSISTANT (up to £580) for
 architectural work on new housing, schools and
 other public buildings. The positions are super-
 annuable and the above rates are subject to an addi-
 tion of 10 per cent on the first £600 and 7½ per
 cent on any remainder.—Application on forms from
 The Architect, The County Hall, S.E.1. enclosing
 stamped addressed foolscap envelope and quoting
 AR/EA/A. Canvassing disqualifies. (514.) [0106]

APPOINTMENTS—contd.**WALTHAM HOLY CROSS URBAN DISTRICT COUNCIL.****ARCHITECTURAL ASSISTANT FOR CAPITAL WORKS.**

APPLICATIONS are invited from persons hold-
 ing Architectural qualifications for appointment
 as ARCHITECTURAL ASSISTANT in the De-
 partment of the Engineer and Surveyor.

The Salary will be according to the National
 Scale Grade A.P.T. VIII (£735-£810 plus London
 weighting).

The appointment will be subject to the National
 Scheme of Conditions of Service: to the provisions
 of the Local Government Superannuation Act,
 1937 and to one month's notice on either side.
 The successful applicant will be required to pass
 a medical examination.

Applications stating age, with full particulars of
 qualifications and experience together with names
 and addresses of three persons to whom reference
 may be made, should be received by the under-
 signed not later than Wednesday 31st October,
 1951.

Applicants should disclose any relationship to a
 member or senior officer of the Council.

H. J. CHAPMAN,

Clerk of the Council.

Town Hall,
 Waltham Abbey,
 15th October, 1951.

[5861]

CONTRACTS**BOROUGH OF BEDFORD.****PUBLIC CONVENIENCES.**

TENDERS are invited for the CONSTRUCTION
 of FOUR PUBLIC CONVENIENCES and in-
 cidental works.

Copies of the Plans, Specification, Bill of Quan-
 tities and Form of Tender may be obtained from
 me on receipt of a written application, accompanied
 by a deposit of £1 1s. The deposit is returnable
 on receipt of documents and bona fide Tender not
 subsequently withdrawn. The Conditions of Con-
 tract may be inspected at my office.

Tenders, in plain, sealed envelopes, endorsed
 "Public Conveniences," must be delivered to me
 not later than 10 a.m. on Wednesday, 7th
 November, 1951.

The Council does not bind itself to accept the
 lowest or any Tender.

CHARLES H. BLAKEWAY,

M.Inst.Mun.E.,

Borough Engineer and Surveyor.

Newnham House,
 Horne Lane,
 Bedford.
 5th October, 1951

[5867]

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ARCHITECT'S Assistant required for London
 Office. Work of interesting and varied nature.
 Must be neat draughtsman with good practical
 knowledge and up to intermediate standard. Salary
 according to ability.—Box 4683. [5866]

BRITISH Overseas Airways Corporation invite
 applications for the position of architectural
 assistant in the office of the Civil Engineer, H.Q.;
 salary from £700 per annum, according to age and
 qualifications: preference will be given to candidates
 (who should be over 28 years of age) with the
 following qualifications and experience: (a) Asso-
 ciates of the R.I.B.A., (b) experience in design of
 industrial buildings, offices, canteens, (c) compe-
 tence in rapid preliminary layout work, (d) know-
 ledge of foreign languages.—Applications in writing
 should be addressed to the Chief Personnel Officer,
 B.O.A.C., Airways House, Great West Rd., Brent-
 ford, Middx. [5866]

ARCHITECTURAL APPOINTMENTS VACANT—contd.

ARCHITECTURAL ASSISTANT—Applica-
 tions invited for vacancy in office of Architect,
 Eastern Region, British Railways, at King's Cross.
 Applicants should be of intermediate R.I.B.A.
 Standard or near. Salary £300/L400, depending
 on age and experience. Free residential rail
 travelling facilities within certain limits and other
 reduced rate rail travelling facilities after qualifying
 period of service. Apply in writing, giving par-
 ticulars as to age and experience, to Civil Engineer,
 British Railways, Eastern Region, King's Cross
 Station, London, N.1. [5868]

SITUATIONS VACANT

CIVIL engineer (designer) required in London by
 British Railways, with good knowledge of in-
 dustrial building construction and design. Must be
 capable of supervising junior staff on the prepara-
 tion of schemes. Commencing salary £350 per
 annum. Certain residential travelling facilities
 granted.—Replies to Civil Engineer, London Mid-
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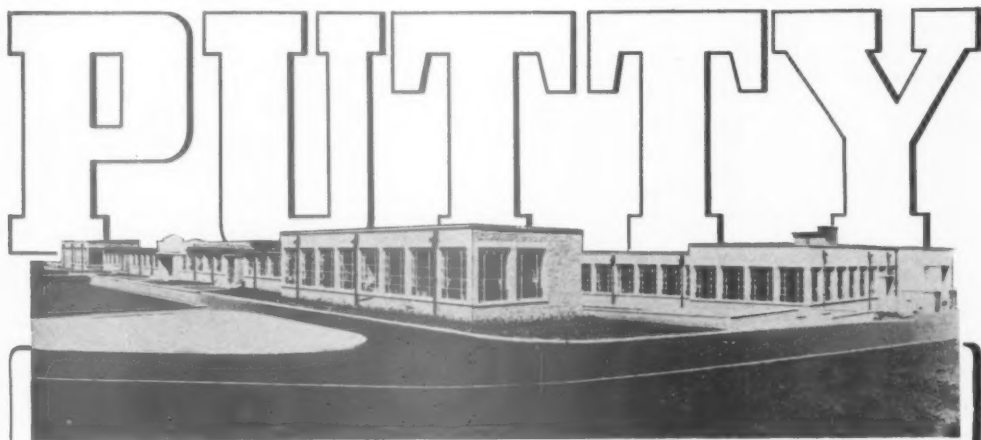
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Official Notices, Tenders, Auction, Legal and Miscellaneous Appointments on pages 35 and 36

Adamite Co., Ltd., The 31A	Econa Modern Products, Ltd. 14	Kirk & Kirk, Ltd. 31A	Ruberoid Co., Ltd. 8
Anderson, D., & Son, Ltd. ... 19	Ellis School 33, 37	Laing, John, & Son, Ltd. 31A	Sealanco (St. Helens), Ltd. 21
Bath & Portland Stone Firms, Ltd., The 33	Fingert & Rolfe, Ltd. 31A, 33	Outside Back Cover	Inside Back Cover
Berry Wiggins & Co., Ltd. ... 34	Evans Lifts, Ltd. 33	Libraco, Ltd. 37	Semtex, Ltd. 21
Bowaters Building Boards, Ltd. 3	Ferguson, C. J., & Sons, Ltd. 32	Light Steelwork (1925), Ltd. ... 31A	Smith's Fireproof Floors, Ltd. 11
Box, C. W. 31A	Floor Renovations, Ltd. 31A	Lindsay Paddington Ironworks, Ltd. 33	Solignum, Ltd. 12
British Plumber, Ltd. 7	Gardner, J., & Co., Ltd. 33	Lion Foundry Co., Ltd. 13	Stafford Concrete Buildings, Ltd. 10
British Reinforced Concrete Engineering Co., Ltd., The 22	Gaskell & Chambers, Ltd. 24	Lockwood, R. Wm. 31A	Stannah Lifts, Ltd. 32
Bryce White & Co., Ltd. 38	General Electric Co., Ltd., The 17	Maple & Co., Ltd. 30	Steven, A. & P., Ltd. 31A
Building Exhibition 34	Gibson, A. L., & Co., Ltd. ... 34	Margolis, M. 37	Sundela Board Co., Ltd. 11
Butler Jones (Name Plates), Ltd. 16	Glow Worm Boilers, Ltd. 26	Margolis, S., & Sons 31A	Tentest Fibre Board Co., Ltd. 37
Cable Makers Association 6	Hall & Co., Ltd. 31A	MetaMica, Ltd. 16	Thom, John, Ltd. 32
Cafferata & Co., Ltd. 15	Hall, Matthew & Co., Ltd. 29	Midland Woodworking Co., Ltd., The 9	Thorp, John 33
Celcon, Ltd. 33	Harvey, G. A., & Co. (London), Ltd. 10	Minton Hollins, Ltd. 37	Turners Asbestos Cement Co., Ltd. 28
Cement Marketing Co., Ltd. ... 1	*Hills (West Bromwich), Ltd. ... 31	Modern Tile & Floor Co., Ltd. 33	Unicorn Leather Company, Ltd. 14
Clarke, T., & Co., Ltd. 18	Hope, Henry & Sons, Ltd. 25	Northarc Organisation 37	United Paint Co., Ltd. 38
College of Estate Management 34	I.C.I. Metals 4	Porn & Dunwoody, Ltd. 13	Vulcanite, Ltd. 33
Communication Systems, Ltd. 20	Inslaid Rubolium Tile Co., Ltd., The 16	Redpath Brown & Co., Ltd. 27	Ward, Thos. W., Ltd. 31A
Crompton Parkinson, Ltd. 2	Key Engineering Co., Ltd. ... 15	Ringmer Building Works, Ltd. 33	Wardle Engineering Co., Ltd. 12
Cullum, H. W., & Co., Ltd. 5	Kinnear Shutters 34	Rolyat Tank Co., Ltd., The ... 30	Warry Patent Building Equipment Co., Ltd. 33
Dunlop & Ranken, Ltd. 1	Inside Front Cover	Ronuk, Ltd. 16	



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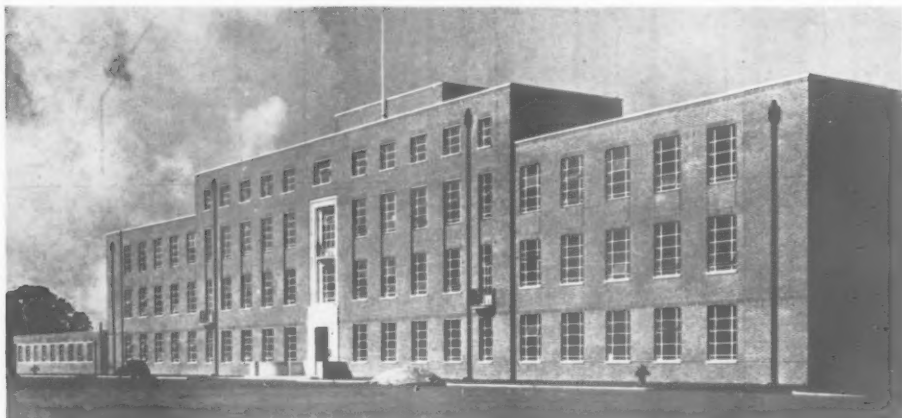
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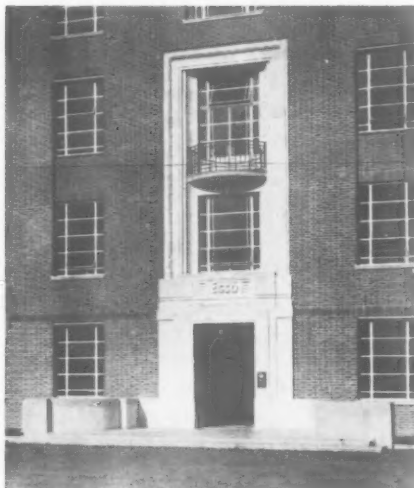
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